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THE

MONTREAL MEDICAL JOURNAL.

A Monthly Record of Medical and Surgical Science.

EDITED BY

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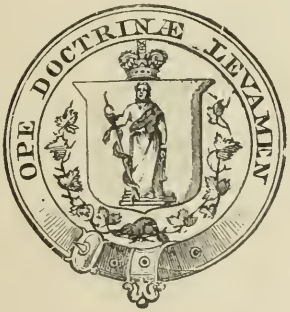
VOL. XXII.



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INDEX TO VOL. XXII.

PAGE

Abdomen, Laparotomy in shot wounds of 36
Abdominal section after confinement.7, 468
Abortion, Tubal 595
Abscess, A rare form of subdiaphragmatic 666
" of brain, A case of multiple.807, 849
" of liver, Amœbic..... 728, 764
" of bone, Chronic 619
" tracking to nates, Pelvic..... 596
Adami, Dr. J. Geo.:
Angiosarcoma of Pleura..... 909, 932
Leuchmæia in a child 647
Subdiaphragmatic abscess. 666
Amœbic abscess of liver 728
Two cases of complete double ureter. 736
Multiple abscess of the brain 807
Addison's disease. 362
Address to the Graduates in Medicine 721
Adenoid growths in Pharynx..... 926
Albuminuria of Pregnancy 696
" in relation to operations.. 72
Alcohol a depressant? Is..... 391
Alloway, Dr. T. J.:
Retrospect of gynæcology 594
Amputation at Hip-joint. Senn 25
Anæmia, Pernicious..... 137
Anatomy, Study of..... 925
Aneurism of aorta with erosion of ribs 657, 693
Anglin, Dr. J. V.:
The general practitioner and the Insane 401
Appendicitis 855
" Case reports of 41, 132, 933
" Infectious..... 427
" in a patient with sacro-iliac disease 372
" with ruptured tubal pregnancy 683
" Treatment of relapsing 28
Appendix adherent to pus tube. 129
" Specimens of 142, 613
Arm, Transient swelling of right 682
Armstrong, Dr. Geo. E.:
Abdominal section after confinement 7
Arthrectomy 766
Atresia of Vagina, Hæmatometra, Hysterectomy..... 693

Beckingsale, Dr. D. L.:
The Okanagan Valley as a health resort..... 414
Bell, Dr. Jas.:
A series of cases of streptococcus infection..... 801
Unusual conditions met with in hernia operations..... 348
Valedictory address 721

PAGE

Bibliography 121, 278, 360, 528, 608, 750
Blackader, Dr. A. D.:
Etiology of tuberculosis 1
Hospital reports 262
Bladder. Fissure of neck of..... 841
Blood changes in Hydrotherapeutic treatment 830
Boat-shaped negro skull 761
Bone-suture. A new method of 39
" Improved technique in. 40
Botulism. A case of 739, 857
Bradycardia 63
Brain. A case of multiple abscess of. 807, 849
" Causation of Inflam. of the .. 937
" Gunshot wound of 648, 674
" Notes on some affections of.532, 881
" Sclerosis of 365
Breslau. Gynæcology in 599
Bronchus, Foreign Body in..... 940
Bulkley, Dr. L. D.:
Treatment of Lupus Erythematosus. 81

Calcaneus after Willet's operation.... 225
Calcium Salts in Hæmophilia 831
Calculi from kidneys. Oxalate of Lime 629
Campbell, Dr. G. G.:
Infectious pneumonia 652
Canadian Vital Statistics 926
Cancer of Bronchial Glands..... 260
" Sweat Glands.....605-619
Carcinoma, Sciatica as a complication of 654
Cerebral Tumours. Surgical treatment o 422
Chemistry in Medical Education. The place of 321
Chewing-gum in Fevers..... 73
Chlorosis. Treatment of..... 828
Cholecystotomy 393, 680, 755, 851
Choledochostomy 37
Cholesterin cyst of Testis 760
Cleft-palate. Contribution to the literature of..... 436
Climates favourable to consumptives.. 753
Club-foot. Neuromimetic..... 225
Colic. Treatment of hepatic 38
Conjunctiva. Congenital polypoid growth of..... 627
Copper nugget in the form of a skull cap 686
Cor Bovinum 124
Coroner's Court. Six months of..... 90
" " One hundred cases in 161, 253, 576, 892
" " for 1893. Statistics of 660
Coroner's law in the Prov. of Quebec. 508, 630

PAGE

Cornell, Dr. S. S.:
A Vaginal Neurosis..... 915
Correspondence 47, 265, 355, 437, 832
Crockett, Dr. W. C.:
Paralysis following use of Esmarch's bandage 343
Cyst of Pancreas simulating ovarian cyst 603
Cystitis. Fibrinous 61

Dawson, Sir Wm.:
Thirty-eight years of McGill..... 481
Day, J. L.:
Two cases of complete double ureter 736
Death certification.....623, 678
Death from shock 744
Deformities. Correction of angular . 227
Depilatory. An efficient..... 719
Dermoid cysts of both ovaries..... 59
Diabetes. Bread substitutes in..... 858
Diphtheria. Epidemic spread of..... 756
Dystocia due to hydrocephalus ... 115, 137

EDITORIAL:
Autopsies at Coroners' Inquests. . 75
Private Hospitals 77
Report of the Leprosy Commission. 78
The Ontario Medical Council 79
An Act Concerning the Compilation of Vital Statistics..... 157
The Eleventh National Medical Congress..... 158
American Electro-Therapeutic Association 158
The Standard for Tinctures 159
Canadian Medical Association 233
College of Physicians and Surgeons of the Province of Quebec..... 234
American Public Health Association 234
The William F. Jenks Memorial Prize 238
American Dermatological Association..... 239
Jean M. Charcot 239
Canadian Medical Association 316
The Contagiousness of Tuberculosis. 317
Certification of Thermometers. ... 318
Vertical Handwriting 396
The Parasitic Protozoa of Cancerous Tumours..... 397
The Proposed Hospitals for Infectious Diseases..... 477
The Royal Victoria Hospital..... 554
McGill University..... 555
The Beauport Asylum 556
Proceedings of the Montreal Medico-Chirurgical Society..... 558
About Two Public Reforms 559
The Lesson of the Hooper Trial..... 631
Canadian Medical Association..... 636
Eleventh International Medical Congress..... 637
Report of the Provincial Board of Health upon the present Scarlatina Epidemic..... 709
The Pathology of Scarlatina 712
The Approaching Cholera Conference at Paris 713
Sixty-first Convocation of the Medical Faculty of McGill University. 775
The Functions of the Cerebral Cortex 790
Hospital for Contagious Diseases .. 793
A National Bureau of Health for Canada 864
Proprietary Medicines 866
A Sensible Coroner Law..... 867

PAGE

EDITORIAK—*Continued.*
Resignation of Dr. Pepper 868
Professional Secrecy among Medical Men..... 954
St. Margaret's Home for Incurables 957
Infanticide in Montreal..... 959
Eclampsia 297, 471
Effects of his occupation upon the physician..... 704
Empyema. Natural cure of..... 154
" Calcified plates from pleura in 605
" Thoracic 460, 753
Enchondroma in mamma of bitch.... 209
Epidemic diarrhœa from contaminated water..... 758
Epilepsy.....153, 625
" Abscess and cyst of brain with 694
Epithelioma of soft palate, &c..... 286
Erysipelas on Cancer, Effects of..... 862
Evans, Dr. D. J.:
Dystociæ due to Hydrocephalus. 115
Two cases of Tetany..... 183
Exophthalmic Goitre..... 461
Exophthalmic Goitre..... 946
Eye, Injuries to..... 926

Fauces. Congenit l defects of anterior pillars of 772
Femoral Artery. Fibroid tumour from sheath of..... 612
" " and vein. Bullet wound of..... 613
Fifth nerve at foramen ovale. To expose 24
Finley, Dr. F. G.:
A case of multiple abscess of brain. 807
Amœbic abscess of the liver . . 728
Chronic leuchæmia in a child. 647
Flat foot..... 226
" Treatment of 676
Foreign Bodies in the Bronchus. .. 940
Fracture of humerus with dislocation. Treatment of 700
Fractures in skeleton of a hawk. Multiple 761
Fragility of bones. Inherited 676
Friedreich's Ataxia 470
Frogs with the cerebrum removed 767

Gall Stone..... 851
Gall Stones. Operation for..... 625
Gasserian ganglion for neuralgia. Destruction of 23, 615
Gastric juice. Diagnostic value of.... 221
Gastric Neurasthenia.....109, 291
Giving the Quilt 232
Gout and rheumatism. Rare forms of. 341
Grant, Sir James:
Rare forms of gout and rheumatism. 341
Grant, Dr. J. A.:
Death from shock 744
Guiacol in tuberculosis 223
" reducing high temperatures 831
Gunn, Dr. N. D.:
Gastric Neurasthenia 109

Hæmatoma, of Fallopian Tube..... 679
Hæmophilia. Calcium salts in. .. 831
Hæmorrhage, Accidental..... 220
Hamilton, Dr. H. D.:
A Rare Form of Stomatitis..... 701
Hart, Dr. E.:
The Profession, The Press and The Code..... 241
Heart, Rupture of..... 755

PAGE

Heart, Wound of 771
Hepatic Colic, Treatment of 38
Hernia, Radical Cure of Inguinal 30
" " " by implantation of bone 450
" Mechanical Treatment of 33
" Resection of Intestines in Gangrenous 35-36
" Treatment of Gangrene in Strangulation 430
" Unusual Conditions in Operations for 348, 387
" of Vermiform Appendix 431
" Large Scrotal 457
" Strangulated Umbilical 530
Hibernation and Allied States in Animals and Man 617, 621
Hip, Congenital Dislocation of 144
Hodgkin's Disease, Pressure on Trachea in 614
Homicide in American Cities. Statistics of 621
Horse-pox, Affecting the Cow 282
Hospital Reports 41, 118, 260
Humerus at Elbow, Compound Fracture of 853
Hutchinson, Dr. J. A.:
Saline Enemata in Hæmorrhage 573
Hydrocephalus, Dystocia due to 115, 137
Hydronephrosis, Double 629
Hysterical Paresis 674
Hysteropexy 594
Hypodermic Injection of Sulphate of Magnesium 701

Ill Effects following Phenazone, &c. 829
Induction coil for use with the Thermo-cautery 689
Infectious Pneumonia 652, 681
Influenza, Some complications of 857
Insane, the General Practitioner and the 360, 401
" Pelvic Disease in the 603
Interprovincial Registration 472
Intestinal Anastomosis with Murphy's Button 764
" Obstruction 424
Intracapsular Fracture in a Paralyzed Limb 685
Intracranial Neurectomy 22, 436
Intrapelvic Treatment of Stump after Hysterectomy 601
Iodoform in Abdominal Operations 598
Iron in the Animal Body 841

Jaundice, Epidemic Catarrhal 675
Johnston, Dr. Wyatt:
Coroner's Court 90, 161, 253, 576, 660, 892

Kidney, Movable 382
" Rupture of 624
Kirkpatrick, Dr. R. C.:
Sciatica as a Complication of Carcinoma 654

Laparotomy, The Curative Effects of 611, 689
" for Perforating Ulcer of Stomach 433
" in Shot Wounds of Abdomen 36
" Two Cases of 386
Lateral Sinus, Septic Infection of 419
Legal Requirements for the Practice of Medicine in the United States 947
Leuchæmia, Acute 934

PAGE

Leuchæmia in a Child 647, 693
Liver, Extirpation of a Tumour of 432
" Penetrating Wound of 231
" with Jaundice, Cirrhosis of 369
Lupus Erythematosus, Treatment of 81

Macroglossia 457
Malaria in a Child Fifteen Months Old 854
Mania following Trachelorrhaphy 676
Masked Tuberculosis 134
Mastoid Disease. Surgical Treatment of 418
Maternity Hospitals and their Results 305
Melanotic Sarcoma of the Foot 932
Mistakes in Practice 925
Mitral and Tricuspid Stenosis 769
Morphia, Dangers of Hypodermic Injection of 682
Morrow, Dr. W. S.:
Notes on some affections of the Brain 881
Murphy Button, Intestinal Anastomosis by 764
Myeloid Sarcoma of Metatarsal Bone 281
Myoma of Uterus 57, 754
Myxolipoma, Retroperitoneal 57

McGill, Thirty-eight Years of 481
McKenzie Dr. R. Tait:
Therapeutics of Exercise 531, 561

Nephrectomy, Through an Abdominal Incision 211
Neurasthenia of Stomach 291
Neurectomy, Intracranial 22
Neuritis, Multiple 475

OBITUARY—80, 239, 320, 399, 478, 639, 715, 794, 877
Jean M. Charcot 239
Marcus Beck 399
Sir Andrew Clark 478
Hugh McEwen 479
Peter Redpath 639
Theodor Billroth 715
Joseph Workman 877
G. H. Raymond 879
Obturator Syringe, The 774
Occipital Bone, Compound Depressed Fracture of 848
Œsophageal Strictures, Method of Cutting 26
Œsophagus, Removal of Pressure Pouch 27
" " Peach Stone from 28
Okanagan Valley, as a Health Resort. The 414
Opium Poisoning, Treatment of 312
Ophthalmic Memoranda 476
Ovarian Cyst 133, 143, 463, 616 678
" Dermoid 612
Ovariotomy in Japan 598
" with Pregnancy 599
Osteosarcoma of Tibia and Fibula 762

Pancreas Simulating Ovarian Cyst. Cyst of 603
Papillomatous Growth from Ileum 209
Paralysis of Arm from Esmarch's Bandage 280, 353
Pathological Reports 605, 666
Pelvic Abscess, Tracking to Nates 596
" Disease in the Insane 603
" Neuralgia from Calcified Ovary 595
Pelvis, Fracture of 847
Pericarditis with Necrosis of Sternum 694

PAGE

Peritoneum, Absence of 73
" Grape Tuberculosis of. . 610
" Mixed Carcinoma and Sarcoma of.. 628
Peritonitis, Tubercular..... 37
" following Rupture of a Dermoid Cyst 603
" Cured by Cœliotomy? How is 603
" Localised Encysted..... 754
Pernicious Anæmia 137
Physical Exercise as a Therapeutic Measure. 531, 561
Physiotherapy First 811
Pied Piper of Hamelin. The..... 155
Playter, Dr. E.:
Physiotherapy First 811
Pleura, Angiosarcoma of 909; 932
Plugging the Uterus in P.P., Hæmorrhage 596
Pneumonia, Infectious.... .... 652, 680
" Post-puerperal Tubercular 853
Poisoning by Belladonna 686
" " Canned Tomatoes..... 762
" " Paris Green..... 372
" " Sulphate of Copper.. ... 457
Popliteal Aneurism 118
" Artery. Embolism of. 153
Pott's Disease. Early Diagnosis of. 151
Profession, the Press and the Code. The..... 241
Profession of Motherhood. The..... 533
Public Health..... 869
Pulmonary Artery. Rupture of..... 361
Pyloroplasty..... 617
Pyosalpinx and Gonorrhœal arthritis. 620
" with Intestinal Fistula. Double 679
" Six Cases of..... 942

Recto ovarian fistula 459
Rectum. Re ection of..... 435
Report of Board of Health of Massachussetts 187
" Committee on Infectious Diseases 136
" Committee on Coroners' law..... .....508, 630
Retina. White Sarcoma of. 466
Retroperitoneal Myxo-lipoma.. 57
Retrospect of Surgery 2, 418
" Gynæcology 594
" Canadian literature . 673, 751, 925
" Pharmacology and Therapeutics 828

REVIEWS :—
Handbook of Massage, Kleen. . 52
Lessons in Physical Diagnosis, Loomis..... 52
A Practical Treatise on Materia Medica and Therapeutics, Shoemaker..... 53
The Treatment of Constitutional Syphilis, Ziemssen 53
Delafield and Prudden: A Handbook of Pathological Anatomy and Histology, Wm. Ward & Co..... 54
A Text-book on the Theory and Practice of Medicine by American Teachers, Pepper 55
Ophthalmic Atlas. Haydon 56
What to do in Cases of Poisoning, Murrell..... 120

PAGE

REVIEWS—*Continued.*
The Anatomy of the Peritonæum, Dexter 120
History of the Life of D. Hayes Agnew, M.D., LL.D., Adams 121
Manual on the Proper Mode of Extracting Teeth, Gorham..... 206
The Indian Medico-Chirurgical Review, Choksy..... 207
Nursing, Isabel A. Hampton..... 207
Disease in Children, Carmichael. . 208
The Anatomy of the Peritonæum, Dexter 275
A Chapter on Cholera for Lay Readers, Vought 276
Diseases of Women, Lewers..... 276
A Hand-Book of Diseases of the Eye and their treatment, Swanzy..... 277
Operation Blank, Keen 278
Transactions of the Association of American Physicians, Hays..... 356
Essentials of Practice of Pharmacy, Sayre 921
The Medical Chronicle..... 921
Text-Book of Ophthalmology, Norris 358
Manual of Diseases of the Ear, Field 359
Anatomy, Descriptive and Surgical, Gray 359
Index Catalogue of the Library of Surgeon-General's Office, U. S. Army 360
A Text-Book of Ophthalmology, Fuchs 440
A Guide to the Examination of the Urine, Legg 441
Transactions of the Medical and Chirurgical Society of the State of Maryland 441
Hernia, Manley 443
A System of Genito-Urinary Diseases etc., Morrow 444
A Treatise of the Science and Practice of Midwifery, Playfair..... 445
Gaceta Medica..... 446
A Manual of Medical Treatment or Clinical Therapeutics, Yeo..... 518
A Manual of Diseases of the Nervous System, Gowers 519
Public Health Laboratory Work, Kenwood 520
The Principles and Practice of Surgery, Ashhurst..... .. 522
Mechanical Aids in the Treatment of Chronic Forms of Disease, Taylor..... 523
Le Medecin de la Famille, Lachapelle 523
Transactions of the Medical Association of Georgia, Howell..... ... 524
Transactions of the American Surgical Association, Willard 525
Surgery, Gallaudet 527
Chemistry and Physics, Struthers... 527
Syllabus of Lectures on Surgery, Senn 606
A System of Legal Medicine, Hamilton... 607
A Guide to the Public Medical Service, Faulkner..... 607
Hand-Book of Public Health and Demography, Willoughby..... 669
An American Text-Book of Gynæcology, Baldy. 669
Transactions of the American Ophthalmological Society..... 670
"Nil Desperandum "..... 671

PAGE

REVIEWS—*Continued.*
Babyhood 671
The Physician's Wife; and the things that Pertain to Her Life, Mrs. E. M. Fairbaugh 747
Sprains, Their Consequences and their Treatment, Moulin..... 747
Syphilis in the Innocen , Bulkley . 748
Annals de Optalmologia 749
A Hand-Book o Ophthalmic Science and Practice, Fuller 833
The Physiologist's Note-Book, Hill.. 833
Tumours, Innocent and Malignant, Sutton 834
A Practical Treatise on Medical Diagnosis, for Students and Physicians, Musser 835
A Text-Book of Physiology, Foster. 835
On Diseases of the Lungs and Pleura including Consumption, Powell... 836
An Illustrated Encyclopedic Medical Diotionary, Foster 837
The Year Book of Treatment for 1894 837
The International Medical Annual and Practitioner's Index 838

Roddick, Dr. T. G.:
Hospital Reports..... 41
Royal Victoria Hospital..... 534

Ruttan, Dr. R. F.:
The place of chemistry in a medical education 321
Saline Enemata in Hæmorrhage.. 573, 617
Sanitary Condition of Factories in Ontario..... 757
" Science. Some of its Effects. 299
Sarcoma of Neck..... 392
" of Retina..... 460
" Subchordal 384
Scarlet Fever 222, 696, 732
Sciatica as a Complication of Carcinoma 653
Sclerosis, Insular. 623
Seborrhœic Eczema..... 47
Semilunar Cartilage. Dislocated 629
Senn's Amputation at the Hip Joint. 25
Septicæmia, Puerperal ... 219, 675
Sewage for Small Towns &c., a System of 759

Shepherd, Dr. F. J.:
The Curative Effect of Laparotomy. 641
Hospital Reports..... 118
Retrospect of Surgery.....22, 418
Shock, Death from 744
Sleep and Allied Conditions, Peculiar forms of 474
Small-pox in Ontario, Danger of..... 759
Snow and Salt as a Local Anæsthetic.. 756

SOCIETY PROCEEDINGS—
Montreal Medico-Chirurgical Society 57
124, 209, 280, 351, 457, 609, 678, 760, 846
932
Montreal Clinical Society.219, 379, 529, 883
Canadian Medical Ass'ciation.293, 382, 470
Huron Medical Association 224
New York Academy of Medicine.143, 225
Provincial Board of Medicine..... 446

Spier, Dr. J. R.:
Synopsis of 100 cases of Scarlet Fever 696, 732
Spine, Treatment of Literal Curvature of..... 925
Spinal Lesions, Operation in Cases of 754

Stewart, Dr. Jas.:
Angiosarcoma of Lung..... 909
Stomach, Carcinoma of 926

PAGE

Stomach, Diagnosis and Treatment of Diseases of the 390
Stomatitis, a rare form of 741, 857
Streptococcus Infection, a series of cases of 801
Stretcher, an Improved..... 502
Stricture of Œsophagus, Method of Cutting 26
Subdiaphragmatic Abscess..... 616, 666
Sulphate of Magnesium as a Purgative Hypo. use of 701
Sulphurous Acid, Some uses of 395
Supernumerary Digits in a Pig 760
Suture of Tendons of Hand 688
Sweat Glands, Cancer of.... 605, 619
Symphysiotomy..... 674
" after Cæsarian Section. 596
" 124 ases of..... 597

Tabes without absence of Knee-jerk... 626
Talipes, Equino-varus..... 846
" Varus 846
Tetany in Infancy, two Cases of....1-3, 222
Thalamus Opticus, Tumour of..... 859
Therapeutic Uses of Exercise..... 561
Thyroid Gland, Enucleation of Tumour of.....609, 629
Toe Prehensile..... 143
Tongue, Excision of 129
Tonsil, Pedunculated Polyp of 627
Tonsillitis, a Case of..... 855
Trachea, Pressure by Enlarged Glands on 614
Transient Swelling of Arm... 682
Trephining in a case of Epilepsy 694
Tubal, Abortion..... 595
" Pregnancy, Ruptured..... 692
" " " with Appendicitis 683
Tubercular Meningitis from Milk 947
Tuberculosis..... 841, 869
" Etiology of..... 1
" Discussion on 212
" Report on prevention of.14 376
" Prophylaxis in 887
" of Ascending Frontal Convolution.. 458
" of Liver and Oviduct of a Pigeon..... 620
" of Peritoneum cured by Cœliotomy? How is..... 603
Typhlitis, Cases of Relapsing 29
Typhoid Fever, with Double Pneumonia 935
Typhoid Fever in Montreal, Epidemic of 68
" " Hæmorrhagic 697
" " Dietary in..... 840

Unconscious Delivery 700
University Clinics of Europe, a Visit to 265
Ureter, Two Cases of Double..... 736, 769
Uretero-Ureterostomy 597
Ureter vs. Appendix..... 624
Urethral Discharges, Diagno is and Treatment of 925
Urinalysis of 100 Cases of Ether Anæsthesia..... 942
Urticaria, Factitious 688
Uterine Appendages, Specimen of Diseased 678
Uterus, Fibroid Tumour of. 609, 610
" Fibro-cystic Tumour of 624
" Cancer of Body of. 695, 762
" Myoma of 57, 754
" Necrosed Polypus of. 761

	Page
Vaginal Discharges, Significance of	602
" Hysterectomy and High Amputation in Cancer of Uterus	602
" Neurosis, A	915
Value of Hands and Fingers, The	156
Ventro-fixation of Uterus	594
Vermiform Appendix, Blood Supply of	630
Villeneuve, Dr. G.:	
Coroner's Court	90, 660
Vipond, Dr. E. A.:	
A case of Botulism	739
Water Supplies, Bacteriological Analysis of	930
Water Supply of Farms	757
" " " Toronto	758
Whooping Cough, Bromoform in	677
Williams, Dr. E. P.:	
Aneurism of Aorta	657
Workman, The Late Dr. Jos.	939
Worthington, Dr. D.:	
An Improved Stretcher	502
Xanthoma Tuberosum	765

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Original Communications.

ETIOLOGY OF TUBERCULOSIS.*

BY A. D. BLACKADER, B.A., M.D.

Professor of Pharmacology and Therapeutics and Lecturer on Diseases of Children, McGill University: Physician to the Montreal General Hospital.

Mr. Chairman—If I understand my commands aright, I am to read a short paper on the etiology of tuberculosis from a clinical standpoint.

At the outset I must offer apologies for the somewhat disjointed character of my remarks, due to their very hurried preparation. I was only informed a few evenings past that the task of opening this part of the discussion had been allotted to me. After the very able papers by the Dean of the Faculty of Comparative Medicine on tuberculosis in cattle as affecting tuberculosis in man, and the paper by Professor Adami on the pathology of tuberculosis, my task becomes a comparatively limited one. My endeavour shall be to place before you, as briefly as possible, the more important facts connected with the origin of tuberculosis as met with by us as physicians.

We are all agreed as to the paramount importance of the tubercle bacilli in the causation of tuberculosis. Yet with many of us the idea of heredity still holds a most important place, as it is felt that no fact in our clinical experience seems less incontrovertible than the hereditary character of tuberculous disease. Careful investigation, however, indicates that this very general experience requires another explanation. Pathologists now tell us that it is the very rare exception to meet with hereditary tubercle, by the term hereditary tubercle

* Read before the Montreal Medico-Chirurgical Society, March 17th, 1893.

implying the congenital transference of the virus, so that the infant enters the world with the bacilli in its tissues. In the vast majority of cases they say that heredity in tuberculosis signifies only "an excessive hospitality for the tubercular microbe, or a deficient capacity for dealing with him on the part of a too feeble phagocyte." In some cases heredity may signify even less, and if rendered into plain English should read "household poisoning by bacilli."

Up till lately it has indeed been questioned by some pathologists whether the bacillus can actually be transmitted to the fœtus, but in 1891 Birsch-Hirschfeld reported the case of a woman dying of acute general miliary tuberculosis at the end of the seventh month of pregnancy. The autopsy of the fœtus conducted with much care revealed numerous tubercle bacilli in the placenta, and portions of the liver, spleen and kidney transplanted into the abdominal cavity of guinea pigs and rabbits produced undoubted tuberculosis. This was the first well established case of transmission from the mother to the fœtus in utero. Other observers have not been so successful, and clinically we know that symptoms of tuberculosis during the early months of infancy are comparatively rare. Epstein in 200 infants under one year, children of tuberculous parents, could not find signs of tubercle in one. Parrot in a very large out-door clinic had only 219 cases of tuberculosis under two years; of these 23 were infants under one month and 111 were under one year. Probably many of these latter were acquired rather than hereditary tuberculosis, for, at the present day, it would seem impossible to strictly define the two sets of cases. Lately, however, Baumgarten in a strongly written article still supports the view of hereditary transmission, claiming that the bacillus is present in many of the children of tuberculous parents, but asserts that it is latent, and that its future history is dependent in great measure upon the favourable or unfavourable condition of the soil offered by its host. It may in time, he thinks, lose its vitality, or may under depressed conditions of the system take on luxuriant growth. His views, although supported by some writers, are not yet proven, and are, therefore, not generally received.

It may be said, then, that the view generally held at present in regard to the hereditary character of tuberculosis is that

cases of true heredity are extremely rare, but that instances may occur where the mother is suffering from general miliary infection, or from definite tuberculous disease of the genital system.

In reference to acquired infection, there are three paths by which the bacilli may obtain entrance: (1) By inhalation through the respiratory tract. (2) With the food through the alimentary tract. (3) By inoculation. Of these perhaps the most important is the first—by the inhalation of dust containing the bacilli in a dried state. Shortly after his discovery Koch definitely determined that the breath of tuberculous patients contains no bacilli. They are found, however, in immense numbers in the expectoration of those suffering from tubercular disease of the air passages. According to Dr. Prudden's experiments there are about 22,000,000 in the daily sputum of a phthisical patient with an average amount of expectoration. These bacilli appear to have great powers of resistance, and are able to retain their infective powers for a long period of time. While in a moist state they do not appear to escape from the sputum, but when the sputum becomes dry it is readily converted into dust, and the bacilli are then liable to be diffused through the air. Great care should therefore be taken over the expectoration of tuberculous patients, that it be thoroughly disinfected as soon as raised and afterwards destroyed, else the apartments occupied by such patients become infective in time through such dust clinging to carpets, bedroom hangings, etc. Not only may the living apartments become infective, but business offices and railway carriages, and even the dust of the road-side become a source of contagion.

This infection of apartments is well shown by the investigation of Dr. Flick, who localized all the deaths occurring from phthisis in one of the wards of Philadelphia for a preceding period of 25 years. He showed that nearly one-third of the houses in this ward had been infected by previous cases; that in many of these houses the deaths from this disease alone had been quite numerous, and that of the total number of deaths which occurred from phthisis in this ward during the one year 1838, more than one-half occurred in these infected houses. Inasmuch as there were more than twice as many non-infected as infected houses, this proportion is remarkable.

As might be supposed from the broadcast distribution of the bacilli through the air in such myriads, as is permitted by the present lack of care in regard to the disinfection of tuberculous sputum, we note that in the great majority of cases the primary lesion is connected with the respiratory system. Northrup points out the great frequency with which the bronchial glands become the seat of primary infection. Out of 125 post-mortem examinations on bodies of tubercular children, in 68 cases the bronchial glands showed that they had evidently been the part first affected; in 34 cases the dissemination was so general that no definite statement as to the point of primary infection could be made; in 20 cases other parts of the pulmonary system showed evidence of early infection, and in 3 cases the mesenteric glands appeared to be the seat of primary infection. From these cases Northrup concludes that the bacilli enter the respiratory passages with the inspired air, pass through the mucous membrane at any point, and enter the lymph spaces, and thus pass to the glands. Their subsequent career will depend upon the power of the tissues to resist their development.

Dr. Loomis has also shown that even in apparently healthy individuals these bronchial glands may be infected. In 48 post-mortem examinations of persons apparently free from tuberculosis, dying from accident or acute disease, and in whom no other evidence of tubercular infection was found, triturates of the bronchial glands in eight cases developed tuberculosis when injected into the pleura of rabbits. And again, Ziemssen in a recent paper on this subject states that during an epidemic of measles in Munich Dr. Bollinger was frequently able to demonstrate the presence of tubercle bacilli in the lymphatic glands, chiefly of the lungs and mediastinum, in children dying from the attack, although they were said to have been healthy previously, and not to have shown any signs of scrofula.

These facts throw new light on the clinical experience many of us may be familiar with, that after a severe attack of measles tuberculosis occasionally supervenes. The attack of measles has only given the latent tubercle bacilli an opportunity to develop.

In addition to the frequent infection of the bronchial glands

by the bacilli, the predilection of the apices to the occurrence of symptoms indicative of their presence is well recognized. This predilection has been explained on several theories; among others, it has been referred to an imperfect expansion of the apex or to defective circulation. Recently it has been pointed out that the thorax at the apex lacks contracting muscular tissue, and with forced expiration there is a recurrent passage of air into the upper lobes, interfering with the expulsion of any foreign substances that may have entered the bronchial tubes. When they have once entered this part of the lung, Ziemssen thinks they experience an amount of rest, which enables them to penetrate to the sub-epithelial tissues and enter the lymph canals. This penetration generally takes place in the alveoli, where the epithelium is non-ciliated rather than in the ciliated passages of the smaller bronchi.

While in adults inhalation of the bacilli and infection through the respiratory tract is much the most frequent origin of tuberculosis, in children the alimentary tract affords an important path through which the bacilli effect an entrance into the system. The upper part of the tract, owing to the very frequent disorders of the throat, mouth and teeth occasionally becomes the place of primary infection from which the bacilli pass to the cervical and sub maxilliary glands, and thence may occasion general infection.

While in healthy individuals the gastric juice has the power of destroying the bacillus, yet in infants it is evidently much less powerful for this purpose than in older children and in adults. This may, we think, be very justly inferred from the greater tendency of infants to be seriously affected by the presence of other micro-organisms in their food. Summer diarrhœa, due principally to this cause, is almost entirely confined to infants under two years of age. Once the bacillus escapes from the acid of the stomach and enters the intestine its action is no longer interfered with owing to the alkaline charncter of its secretions and contents. Nature relies on the acid gastric juice as its chief barrier to prevent noxious organisms gaining access to the lower part of the canal. When this barrier is broken down by any disturbance of the stomach associated with imperfect secretion of gastric juice, any bacilli entering with the food have an almost unobstructed highway

to the lower and more assailable part of the canal. Entrance appears generally to be effected through the lymph follicles of the ilium and large intestine, while the upper part of the canal almost invariably escapes, owing probably to the more active character of its secretions. In this way the frequency of intestinal and mesenteric tuberculosis in childremay be explained. Woodhead states that in 127 children dying of tuberculosis the mesenteric glands were involved in 100.

The bacillus may gain entrance along with the food in many ways, but undoubtedly the most frequent method is in cow's milk. There can be no doubt, at the present day, of the fact that the milk of tuberculous cows may contain the specific bacilli, whether they have a tuberculous affection of the udder or not, although we may admit that the milk is much more liable to be infected if the udder or teats are diseased. The valuable investigations conducted by Prof. Ernst have demonstrated that the milk of tuberculous cows in 55 per cent. of the experiments conveyed tuberculosis when inoculated into the lower animals, even when there was no appearance of any tubercular mammitis.

Tubercular meat may also occasionally be a source of infection when imperfectly cooked, but this must be a comparatively infrequent source.

Other occasional means by which food may become contaminated and thus afford a means of entrance for the bacillus to the intestinal tract will occur to all of you on thinking over the subject.

A third, but fortunately only a very occasional mode of infection is by inoculation. Infection may occur from a wound in the post-mortem room or operating theatre. It has been occasionally recorded as a sequence to the performance of the rite of circumcision when the operator suffered from tuberculosis, and especially if there happened to be any tubercular sore upon the mouth. Vaccination is also a possible, although not a probable, source of the conveyance of the infection.

Under these circumstances, when danger threatens from so many sources, the question arises as to the best means of prophyllaxis. Very fortunately for us though many seeds are sown only those that fall on favourable ground survive. The healthy organism appears able to rid itself of many intruders,

provided its powers are not too much taxed by overwhelming numbers. It is when slight resisting power is super-added to the presence of infection that special danger is to be apprehended. The resisting power of the organism against the tubercle bacilli appears to be in great measure dependent upon the following: 1. A healthy condition of the bronchial mucous membrane. 2 The healthy performance of the digestive functions. 3 The vigorous activity of the amœboid cells.

As physicians we should impress upon all our tuberculous patients the necessity that exists for complete disinfection of the infected secretions. The best method is probably by fire, as the bacillus resists ordinary disinfectants. The herds of all public purveyers of milk should be under regular government inspection, and diseased cattle should be isolated and killed. We feel convinced also that much more can be done by us as physicians in the way of prophylaxis by strengthening the barriers that nature raises against the intruders, than can be affected by any or all of our subsequent therapeutic, antiseptic or germicidal measures.

FIVE CASES OF ABDOMINAL SECTION AFTER CONFINEMENT.

By G. E. Armstrong.

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Mr. President and Gentlemen—I have recently had to do with three or four cases which in my experience are not common, and my friend Dr. Perrigo has had to do with one of a somewhat similar character. We think that a brief rehearsal of the principal points will be of interest to the Society, and hope that the discussion will be mutually helpful and instructive.

On the 3rd of March last Dr. W. G. Stewart asked me to see with him a lady whom I had myself previously confined three or four times. Her confinements had always been normal, but her recoveries had not always been as satisfactory as could have been desired. She had generally recovered slowly, had usually had a little temperature, and some soreness and tenderness over the uterus and adnexa, but nothing of a serious character.

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Dr. Stewart told me that her last confinement had been a normal one in every respect. She did well afterwards and got up on the tenth day. In brief, she soon afterwards became feverish, complained of some abdominal pain and soreness and went to bed. During the next four weeks she had a very fluctuating temperature, an occasional chill, frequent sweats and sufficient abdominal pain to require poultices and opium to relieve. When I saw her six weeks after confinement she had a temperature of 101.5, pulse of 130, small and weak, and an anxious expression. The abdomen was rounded and for the most part tympanitic. In the left lower abdominal region a distinct but ill-defined mass was easily felt which was tender on pressure. I advised an exploratory incision, which was consented to. Before opening the abdomen I curretted the uterus, swabbed it out with a solution of permanganate of potassium and packed with iodoform gauze. On opening the abdomen the omentum was found adherent to the uterus and tube of the left side. On carefully detaching the adherent margin a pus sac was found, the walls being formed anteriorly by the omentum, below by the left tube and ovary, and above by knuckles of intestine. The pus was carefully removed, the tube and ovary tied off, as well as fully one-third of the omentum, which was infiltrated and thickened. The patient made an excellent recovery.

The tube in this case was brightly injected, swollen to probably twice its normal size, but there was not evident any constriction, and it contained no pus.

Case II.—This case occurred in the practice of Dr. J. Perrigo, and I am indebted to him for the report of it. Mrs. S., referred to me by Dr. Tatley, March 11, 1893. Chief points of history obtainable were: Confined five weeks previously of her second child; attended by a midwife; labour normal. On seventh day developed severe rigor, with temperature of 104° and quick pulse. From this date rigors frequent and temperature continuously high. Great pelvic pain on left side, moderate abdominal distension; occasional vomiting and diarrhœa; prostration extreme. Examination disclosed a tender abdomen with a large mass in left side of pelvis, a soft patulous

"os," with uterus adherent to mass. No fluctuation could be detected. Patient could bear very little pressure on the mass, and any attempt to move the uterus caused intense pain. Patient removed to private ward of Western Hospital on March 12th, and abdominal section performed that day. All aseptic precautions taken on the part of operator, assistants, nurses and instruments. The field of operation also made aseptic.

Before doing the section the uterus was curretted and some decomposed placental tissue removed. This was done very gently, but notwithstanding the care taken, the fundus close to the left groin was perforated, so soft were the uterine walls. This was discovered when doing the section. It was quite small and there was no hemorrhage from it. The uterus was irrigated and packed with iodoform gauze. Upon section the right side of pelvis was found healthy. The contents of the left side formed one mass of inflammatory exudation, all the structures being agglutinated together, adherent to the uterus and to the wall of the pelvis. The lower half of the omentum showed patches of gangrene, and in two small points were attached to coils of intestines, and its left and lower border was adherent to the abdominal wall and to the mass in the pelvis. The omentum was first detached and all diseased portions removed. Great care was required in separating the adhesions from the intestines. No injury to intestines. The tube was enlarged to the size of an average adult's wrist and contained small pockets of pus. The tubal canal was obliterated. Ovary of normal size and gangrenous.

The tissues were so friable and softened that it was with difficulty ligatures could be applied without cutting. The thermocautery was freely used, but there was not much hæmorrhage. Abdomen flushed and drainage tube used. Before operation patient's temperature was 103 2-5 and pulse 130. Operation was at 4 p.m., was an hour and a half in duration. Temperature at 7 o'clock same evening was 99 3-5, pulse 110. Iodoform gauze removed from uterus day after operation.

From this date up to the evening of the seventh day the temperature ranged from 99° to 100°, respiration 18 to 24,

pulse 96 to 104. Tube removed on second day, no discharge from it, and incision appeared clean and healthy. On evening of seventh day temperature went up to 102°, pulse 120, respiration 26, and had a restless night, although passing flatus freely. On the morning of the eighth day temperature was normal and pulse 88, but in the evening the temperature went up to 103 1-5, pulse 120, respiration 28. The incision was examined and appeared healthy, but the evidence of pus being present was so strong that two of the central sutures were removed and about half a pint of pus evacuated. The opening in the incision caused by the removal of the two sutures was sufficiently large to pass the finger in. A large pus-cavity was discovered which had followed in the tract of the glass drainage tube. The cavity was well irrigated and a large tube inserted, which was cleansed every two hours. From this date the patient convalesced steadily, interrupted at times by her own misconduct.

Case III.—Presents a history which in some respects is unique. She was attended during her second confinement by Dr. F. R. England. Her confinement was a normal one in every respect, not unduly prolonged, and the child was born alive and well. Dr. England saw her each of the immediately succeeding nine days. Her recovery was all that could be wished. Her temperature and pulse were normal every day. The lochia was present in sufficient quantity and at all times free from odour. Her breasts were always full and the child nursed well. The lacteal secretion was always sufficient for the child. At 4 p.m. on the ninth day after confinement Dr. England paid what he intended to be his last visit. Her temperature and pulse were normal, breasts full, lochia getting scanty and odourless. No abdominal pain or tenderness; it was soft and bore palpation without the slightest discomfort. She lay in bed with her babe upon her arm, well and happy and hopeful. At 10 o'clock that evening the nurse decided that her patient's bowels needed moving. As the baby had a little looseness the nurse thought that an enema was the proper thing to give. The patient objected strongly to this, on the ground that after her first confinement she had had an enema and that she suffered

very great pain for 48 hours afterwards. Her objection, however, was overcome and the enema was given. She was almost immediately seized with intense abdominal pain, with great general tenderness, and vomiting. She had a small stool almost immediately and her bowels did not move afterwards. The vomiting persisted and soon became bilious. Hypodermics of opium were given to relieve the pain. The abdomen became tympanitic, the temperature rose, the pulse became rapid and shabby, the face became drawn and anxious, and it was evident that the patient was suffering from some severe lesion, sufficient to cause a condition of collapse. I saw her with Dr. England during the afternoon of the next day. I thought the history and symptoms pointed to some acute obstruction of the bowels, possibly a volvulus. Her condition was an extremely grave one, and it was easily seen that if anything was to be done more than had already been done, it was of a surgical nature. An exploratory incision was advised, and with that object in view she was removed to a private ward in the Montreal General Hospital. There, with the assistance of Dr. Shepherd, I opened the abdomen by a median incision.

The peritoneal covering of the intestines was congested. I think I am within the limits when I say that two pints of thin, pale yellow odourless pus flowed out. After thorough irrigation the uterine appendages and appendix vermiformis were examined without finding any condition that was thought to bear a causitive relation to the peritonitis. The tube and ovaries were tied off and sent to Dr. Adami, whose report upon them I will read. This woman was moribund when the operation was begun and died ten minutes after being removed from the table, or just 24 hours from the giving of the enema and onset of symptoms.

The following is Dr. Adami's report :

PATHOLOGICAL LABORATORY, McGILL UNIVERSITY,
May 17th, 1893.

The fallopian tubes are rather more capacious than normal; their epithelium is healthy; the peritoneal surface layers are congested and thickened.

The ovaries present no suppurative foci; all that can be said of

them is that they are more fibroid than they ought to be—possess large tortuous vessels and thickened capsules. Evidently, therefore, the peritonitis has not started from the tubes or ovaries in this case.

With kind regards, yours sincerely,

J. George Adami.

Careful search was made for volvulus and hernia, but nothing which could be taken for a cause was found. Thinking that perhaps a small perforation existed along the sigmoid or colon, I asked one of the House Physicians to inject water into the rectum. It entered freely, filled the colon and passed through into the ilium, but none escaped through into the peritoneal cavity. I was obliged to close the abdomen without determining the cause of the pathological condition present. No autopsy could be obtained. From the symptoms of obstruction which were present, and the history of severe pains following the administration of an enema after a previous confinement, I am inclined to think that in some way a volvulus of the sigmoid was produced by the enema which had untwisted, but not before some pyogenic micro-organisms had escaped into the peritoneal cavity. What it was—whether the bacillus coli or one of the proteus group, described by Hauser in 1885, or some other, I cannot say, as unfortunately none of the pus was saved for bacteriological examination.

Dr. Flexner, Associate in Pathology in the Johns Hopkins Hospital, describes in the April number of the *Johns Hopkins Bulletin*, a case of peritonitis occurring in a patient, the subject of chronic disease, thought to be due to the action of the proteus vulgaris. In the same paper Dr. Flexner says that "Foa and Bonome found in the blood and organs of a man dead of supposed hæmorrhagic infarction of the intestine and mesentery and thrombosis of the mesenteric vein, a bacillus which they identified as the proteus vulgaris.

Case IV.—A patient of my own, was attended for me in my absence by Dr. Spendlove in June, 1892. It was her third confinement; labour easy and rapid; child living and healthy; recovery apparently perfect; no history of any tubal or ovarian trouble. Two months after confinement, while in apparent health and nursing the child, she was suddenly seized with a

severe rigor, rapid pulse, and a temperature of 104, followed by pain and tenderness in the lower abdominal region. She recovered in a week, so far that the pain and tenderness disappeared and pulse and temperature became normal. The lacteal secretion was sufficient for the child, and she resumed her household duties. In fifteen days she had a similar attack, followed in ten days by another; apparently good recovery, only to suffer another recurrence ten days afterwards. The third attack was the most severe of all. In addition to the rigor, high temperature and pain and tenderness, there developed a large, soft, tender mass on each side of the uterus, easily felt by bimanual palpation. I now decided to open the abdomen. On doing so I found a large tubo-ovarian abscess on each side. It was treated in the usual way and a rapid and perfect recovery followed. This patient is now in better health than she has been for years.

I might add a fifth case operated on in the General Hospital some two years ago, followed by recovery.

Case III must be considered separately from the rest. The symptoms were those of obstruction. Dr. Adami, in his report upon the tubes and ovaries, says they can not be called diseased and that we must look elswhere for a cause of the peritonitis. The cause was apparently a temporary condition, which had ceased to exist at the time of operation. Remembering the symptoms that followed the administration of an enema after the first confinement, and the apparently causative relation of enema and symptoms at the onset of her last illness, I think that probably, as I said before, a volvulus was produced which untwisted before we inspected that region, or perhaps it was untwisted while we were looking at the condition of the uterine appendages on the left side.

The two lessons to be learned from the other four cases are, first, the necessity for greater caution against sepsis when attending confinements or miscarriages. The technique of a case of midwifery should more closely resemble that for a modern surgical operation. The greatest care should be taken to render the hands of the accoucheur aseptic. His coat and

underwear should be above suspicion. The patient's person and clothing and bed should be made as clean as circumstances will permit. A napkin or towel wrung out of a hot solution of corrosive sublimate 1 in 2000 should be used, instead of the old dry napkin, to support the perinæum. The parts should afterwards be frequently washed by the nurse, who should be impressed with the necessity of having clean hands herself.

Secondly, these cases teach us that when septic infection occurs great care should be taken to discriminate between infection from the vagina, torn perinæum, uterine cavity, or torn cervix, and infection extending up and involving the fallopian tubes. The treatment should aim to meet efficiently the pathological condition present. The experience gained from these five cases demonstrates the utility of proper surgical treatment in properly selected cases. No amount of vaginal douching or curretting and irrigating of a septic uterus will save a woman suffering from ruptured pus tubes, with intra-peritoneal inflammation and abscess.

But the history of these cases does show that surgical treatment may not only save their lives, but restore them to perfect health. Thoroughly cleanse and render aseptic the vagina and uterine cavity, and then if there is pus in the abdomen open that cavity, remove the pus and diseased tubes and infected omentum, and make it also as aseptic as possible.

THE PREVENTION OF TUBERCULOSIS.

REPORT OF THE SUB-COMMITTEE APPOINTED BY THE MEDICO-CHIRURGICAL SOCIETY TO DRAW UP RULES FOR THE PREVENTION OF THE SPREAD OF TUBERCULOSIS.*

In one or other of its many forms, whether as consumption or lung phthisis, as abdominal phthisis or tubercular peritonitis, as brain disease, as scrofula, as lupus (of the skin), or again as tubercular joint and bone disease, the condition of tuberculosis carries off more human victims than any four other diseases combined. Slow in its progress as a rule, though at times of frightfully rapid course, it is man's most powerful and relentless enemy.

* This Report has been drawn up in conjunction with the Société de Médecine Pratique de Montréal, and the Committee of that Society append their signatures.

But happily it is an enemy whose tactics and whose plan of campaign we have mastered during these last ten years, and if medical men have not yet learnt how to make sure of defeating it when once it has made an entrance into the human body, this at least they have learnt, how to guard against that entrance.

We know now from Koch's great discovery that consumption and all the other forms of tuberculosis are brought about by a minute rod-like body, the Bacillus of Tuberculosis—a minute body which when once it gains a foothold in the lungs or any other part is only with great difficulty killed, for it is very tenacious of life, and by its growth and multiplication, and by the substances that it gives off in the course of its growth it causes the fever, the wasting, and the other symptoms associated with the malady.

The peculiarity of these bacilli is that under ordinary conditions they cannot grow outside of the bodies of warm-blooded animals, such as man and cattle. It follows, therefore, that tuberculosis can only arise from a previous case of tuberculosis, the bacilli that have grown in one body are taken into another and so infect it. This first body may have been that of a human being or, as is often the case, of a domestic animal. For the domestic animals are liable to tuberculosis, and of these the cow is most often the cause of infection, through the fact that its teats and udders not unfrequently become tubercular; consequently the milk may contain the bacilli. Now as the milk is given to children unboiled or unscalded the living bacilli pass into the bowel and there set up abdominal disease.

In those grown up, the lungs are the usual starting point, that is to say, the bacilli are taken in with the air that is breathed. How do they get into the air?

If these bacilli will not grow outside the body they are, on the other hand, as we have remarked, very tenacious of life. They can remain alive and in a dormant state for months, if not for years. And the conditions under which they keep alive are (1) that they are in a dried state; (2) that they are not exposed to a very great heat; (3) that they are not exposed to bright sunlight.

From what we have said it follows that while the bacilli

may pass directly from individual to individual, and the disease be communicated by contact (such contagion is rather rare) the disease may also be set up *by the breathing in of the dust of rooms in which there have been those suffering from consumption.* Where the lungs are affected, as every medical student knows from his work in the hospitals, thousands of those little rods may be brought up with the sputum each time the patient expectorates on the floor, and the sputum dries there, or even if he spits into his handkerchief and this dries, in either case so much dry dust containing live bacilli is produced, and this collecting on the walls or in the dark corners remains for long a source of possible infection for other people.

Let us give some examples which will prove the reality of what we have said :

In Germany the nursing of the sick in hospitals is largely carried on by religious sisterhoods and brotherhoods, and when in Germany out of every hundred deaths in the ordinary population, between twenty-three and twenty-four are due to tuberculosis, it follows that in general hospitals a very large number of the patients must be tuberculous, and that the nurses must necessarily and continually be coming into contact with the disease. Now Dr. Cornet has carefully examined into the statistics of thirty-eight of these nursing confraternities during a period of twenty-five years, examining the causes of over 4000 deaths, and of this number *out of every hundred nurses over sixty-two died from tuberculosis*, or to put the matter in another light, he found that while between eighteen and fifty years of age never less than half of the nurses died of consumption, etc.—at certain ages (35 to 50 for example), nearly three-quarters of them fell victims to this disease. Indeed, as Dr. Cornet showed, a nurse in Germany at twenty-five stands in the same position as a woman of fifty-eight, not a nurse, with regard to prospect of life.

Equally clear evidence of the communicability of phthisis to those living with, or in the same house with phthisical patients is given by Dr. Flick of Philadelphia, who mapped out every death that occurred in a single ward of that city during a period of twenty-five years.

He found that during the period in question less than one-

third of the houses in Fifth ward had been the seat of a death from tuberculosis, but that the infected houses were not scattered irregularly among the others, but were more frequently in groups, just as is the case in epidemics of small pox, typhoid, and diphtheria—an arrangement pointing to the spread of the disease from a patient to those in his immediate neighbourhood. Moreover, a large portion (33 per cent.) of the infected houses presented more than one case, and some had been the seat of seven or eight deaths from this one cause during the five and twenty years. Taking the deaths from tuberculosis in one year alone, Dr. Flick found that in this one ward of Philadelphia considerably more than half the deaths from tuberculosis occurred in those houses which had been affected during the previous twenty-five years. Now inasmuch as there were more than twice as many unaffected houses in this ward as there were affected we should have expected that the deaths would roughly have been twice as many in these unaffected houses. That would have been the proportion had he been dealing with heart or liver disease, for instance. That the proportion is reversed is only to be explained by the infectious nature of the disease.

Tuberculosis in the form of disease of the lungs, the bowels, and of the membranes of the brain is a most frequent cause of death in children. Of every thousand living beings twenty-four die of tuberculosis during the first year of life; indeed during the first two years of life according to one competent observer, out of every hundred deaths nearly forty are due to tuberculosis [this in North Prussia]. That this high death rate is largely brought about by the surroundings of the children, by their living in tubercular homes with consumptive relations, is shown by the statistics of orphan asylums. At Nuremberg, where the orphan asylum has four hundred inmates, only two or three deaths ascribed to tuberculosis have been recorded during eight years. At Paris the results are even more striking. There the *Assistance Publique* adopts all abandoned and orphan children and sends them into the country, finding healthy homes for them among the peasantry. A very large proportion of these orphans are the children of consumptive parents, one or both of whom have died in the

hospitals. Yet examining the statistics of 10,000 such children Dr. Hutinel could only find the insignificant number of ten deaths recorded as being from tubercular affections.

If this be the case—if phthisis be communicable, and if, in a very large proportion of cases, the infection is due to the entrance of bacilli into the air passages in the form of dust—then knowing these facts it is in the power of the phthisical patient and those around him to lessen greatly the chances of other human beings becoming infected through him. And the following rules are worthy of the earnest attention of every right-minded patient and his friends.

It is of most urgent necessity that for the common good they should be carried out with the utmost rigour.

Rules to be Observed as to the Surroundings of those Suffering from Consumption or Tuberculosis of the Lungs.

1. For the safety of those around him the patient should only expectorate into cuspidors, and when not bedridden he should carry a pocket spit-cup for use whenever in the house and places of public resort where there is no cuspidor available. A simple bedroom cuspidor can be made out of a cup kept for this purpose alone, and half filled with water.

2. To make sure that their contents do not become dried up and so carried off as dust the cuspidors should contain water. Their contents should be poured daily in the sewer or cesspool (where the bacilli are soon destroyed).

3. Where the patient is up and about, and cannot employ cuspidors, handkerchiefs must be used, which are changed frequently, and placed in boiling water so soon as they are done with.

4. The soiled handkerchiefs and bed linen of such patients must be kept apart from those of healthy persons, and must be well boiled in the process of washing.

5. Unless the position of the patient render this an impossibility (and in this case, for the safety of the family, he should enter a hospital) the patient must sleep alone—preferably in a room by himself.

6. Whether the patient is up and about, or whether he is confined to bed, the following points should be attended to with regard to the bedroom :

(*a.*) It should be sunny, well ventilated and free from dark corners.

(*b.*) All articles which collect dust should be removed—

any carpet present should be replaced by floorcloth. The curtains, if any, should be of light washing material and should be washed frequently in boiling water.

(*c.*) The walls should be whitewashed, or covered by material that can be rubbed by damp bread or damp cloths.

(*d.*) The floor, and the room in general should never be dry dusted, but should be cleaned by damp cloths, so as to prevent the dust flying about.

(*e.*) After the death of a patient suffering from phthisis the room and bedding should be most thoroughly disinfected. The walls should be given a new coating of whitewash, or may be repapered only after all previous coats of paper have been well dampened and then scraped off. The bedding and clothing of the deceased should be disinfected In the dry steam disinfector; where possible they should be destroyed.

Lastly, a few words may be said with regard to these rules and their application. Every care is to be taken that in carrying them out the comfort of the patient, both in mind and body be affected to the least possible extent. It must not be thought that they are intended to lead to the cutting off of the patient from his relations and friends. On the contrary, their adoption will prevent the necessity of any such a course, and here we may point out that the general opinion of the medical profession, based upon many observations, is that the breath of consumptive patients is not infectious : *the sputum or expectoration is the great bearer of disease.*

Undoubtedly there are very many persons who are placed continually in the way of becoming infected and who nevertheless keep in good health—but these are persons of strong constitution, of healthy habits of life, and who generally will be found to take plenty of exercise whether willingly or of necessity in the open air. Undoubtedly also, there are very many persons who become affected, but in whom the disease comes to a standstill, thanks to a bettered state of general health. All this, while deserving to be borne in mind does not, however, lessen the necessity for the rigorous application of the above rules, which are intended for the safety and well-being, not so much of the patient himself, or of the robust and vigorous, but of that large mass of the population always on

the borderland of ill-health—of those whose protection should be our first care—the women whose life is spent in the house (with little active open-air exercise), or in confined work-rooms, and the little children—of those also among working-men whose time is largely spent in the company of their fellows in workshops and factories.

There is another side to the question of the prevention of tuberculosis to which we feel it incumbent upon us to refer, even if it be but briefly, namely. the duty of those not affected by the disease, to make the surroundings of themselves and of those dependent on them so healthy that the chances of infection are reduced to the smallest. It is the bounden duty of employers of labour, as it is to their advantage, to see that their work shops are healthy, and that consumptive workmen do not expose their fellow labourers to infection: it is the bounden duty likewise, of heads of schools to exercise extreme caution lest one child suffering from a constant cough, for example, distribute consumption to his or her companions in the school room or dormitory. And in this connection we would point ou that inasmuch as the children of consumptive parents would seem especially liable to become affected, so it behooves those having charge of such to be more than ordinarily careful that the general health is kept at a high standard, that they have nourishing food and much open air exercise. In these children the first signs of any of the numerous forms in which tuberculosis may manifest itself (mentioned by us in our first paragraph) must be diligently looked for and guarded against.

While it is well in a town to have an efficient fire brigade, so that if a fire break out, that fire is prevented from spreading, it is even better to have the houses in the town rendered fire proof in order that the danger to the community in this respect be brought down to the lowest possible limit. At present, with reference to consumption and tuberculosis, it must be admitted that our human houses are so inflammable that the establishment of a fire brigade, such as that shown forth in the above rules, is a matter of urgent necessity for the good of the community at large. While here we point out that individual tenements can, as it were, be made relatively fireproof,

it is to the prevention of conflagration—of the spread of tuberculosis when once it has manifested itself—that now we would specially draw attention.

We recognize the difficulty that must always exist among the very poor in the carrying out of rules of health and of prevention of disease. This very fact makes it all the more necessary that, for the well-being of the population at large, the care of the diseased poor be made more widely than ever the peculiar concern of the state and of each district forming a portion of the state. By the erection of special hospitals or by the setting apart of particular wards of general hospitals for the purpose of receiving the consumptive poor much would be done to prevent the spread of this scourge of humanity.

In behalf of the Montreal Medico-Chirurgical Society:

James Stewart, M.D., *President.*
D. McEachran, D.V.S.
A. D. Blackader, M.D.
Louis Laberge, M.D.
J. G. Adami, M.D.
Wyatt Johnston, M.D.

In behalf of La Société Médecine Pratique de Montrél:

A. T. Brosseau, M.D., *President.*
E. P. Lachapelle, M.D.
H. E. Desrosiers, M.D.
J. J. Desroches, M.D.
L. J. V. Cleroux, M.D.
O. F. Mercier, M.D.

Copies of these rules may be obtained by applying to the Secretary of the Montreal Medico-Chirurgical Society, 2426 St. Catherine street, Montreal.

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY.

By Francis J. Shepherd, M.D., C.M., M.R.C.S., Eng.
Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

Intra-cranial Neurectomy.—Operations for the cure of invetrate neuralgia of the fifth nerve have of late become very common and each month brings out a new method of exposing the nerve or the Gasserian ganglion. Ever since Mr. Rose successfully resected this ganglion by means of his very formidable operation, surgeons have been stimulated to reach this point by simpler and safer means. Dr. Frank Hartley, in an able and interesting article (*Annals of Surgery*, May, 1893,) describes a method of exposing the fifth nerve within the skull as follows; "An omega shaped incision is made, having its base at the zygoma and measuring a distance marked by a line drawn from the external angular process of the frontal bone to the tragus of the ear. The curved and rounded portion of this incision reaches as high as the supratemporal ridges, the diameter of the circle being three inches. The skin and deeper tissues are cut in the shape of the Greek letter omega. This incision is carried down to the periosteum of the skull in all portions of the incision except the straight part at its base. The tissues are now retracted and the periosteum divided upon the bone in the same direction as far as the straight part at the base. With a chisel a groove is cut in the bone following the incision in the periosteum. The groove goes to the vitreous plate, except at the upper angle of the rounded portion, where it includes the vitreous plate. A periosteal elevator is here inserted and used as a lever to snap the bone on a line between the ends of the circular portion of the incision. In this way the breakage occurs along the lower portion of the wound, and a flat consisting of skin, muscle, periosteum and bone is thrown down, exposing the dura mater over a circular area of three inches in diameter. The middle meningeal artery is now tied, the dura mater separated from the bone, and the floor of the middle

fossa of the skull exposed. Broad retractors are now used to raise the dura mater with the brain and to expose the foramen rotundum and the foramen ovale." By this means the three divisions of the fifth nerve are exposed, and by pressing upon the dura mater the Gasserian ganglion can be laid bare and destroyed, or the nerves going from it excised. The flap of bone, muscle and skin is now replaced and the various layers sutured. The patient on whom this operation was done was 46 years of age and had suffered for 10 years and had had various operations performed. After this operation, which was performed August 8th, 1891, patient was free from pain, and when last heard of, January, 1893, was quite well. Similar operations have been performed successfully by Krause, McBurney, J. B. Roberts, of Philadelphia, and the author—in all five cases. A grooved chisel similar to those used by cabinet makers is recommended. Two sizes are used, a larger first and then a smaller. A large flat retractor is also necessary for the purpose of holding back the brain.

To reach the ganglion the second and third divisions of the nerve near their foramen should be divided and the proximal ends seized with forceps and the dura mater divided where it covers the nerves at the outer border of the cavernous sinus. The traction on the nerves allows of the exposure of the ganglion, which can be torn out with a hook or scraped with a Volkmann's spoon, or divided with a tenotome. The ganglion lies over the carotid artery.

Dr. Roswell Park, of Buffalo, in an article entitled *Destruction of the Gasserian Ganglion for Trigeminal Neuralgia, with a Report of Two Cases* (*Medical News*, February 18, 1893), describes a method used by Dr. Andrews, of Chicago. The zygoma is exposed by an H shaped incision and sawed in two places, the detached portion is turned down with the masseter muscle. The coronoid process with the insertion of temporal muscle is now exposed and sawn through. Then with the mouth widely open there is sufficient space to allow of the attack on the Gasserian ganglion. After clearing away some fat and connective tissue, and per-

haps ligaturing the internal maxillary artery, we get on the pterygoid plate from which arises the external pterygoid muscle. The muscle is removed and the external plate followed and the foramen ovale reached, through which passes the inferior maxillary nerve. The Gasserian ganglion lies between two layers of dura mater, the lower layer is thin and the upper strong. The ganglion is broken down with a blunt hook. Dr. Park has found hemorrhage so great in these cases that he now ties the common carotid artery as a preliminary measure. Both cases did well, though no report is given after any time had elapsed.

A New Method of Exposing the Inferior Division of the Fifth Nerve at the Foramen Ovale.—KROENLEIN (*Archiv. fr. Klin. Chir.*, xliii) proposes that an incision should be made from the angle of the mouth to the tip of the ear, without cutting through the buccinator muscle and mucous membrane of the cheek. The masseter muscle is separated from the parotid, which together with its duct is left undisturbed. The coronoid process is freed and divided obliquely with bone forceps, then lifted up with the temporal muscle. The fat is next cleared away from the cheek and the buccal nerve in its course between the internal and external pterygoid muscles and the inferior dental and lingual nerves brought into view. In order to find the auriculo-temporal nerve the external pterygoid muscle is raised and the internal maxillary artery double ligatured and divided, when the auriculo-temporal nerve with the meningeal artery between its branches is seen. The individual branches of the inferior division of the fifth nerve may be divided at the base of the skull or pulled out. (Quoted in *Sup. Brit. Med. Jour.*, January 14, 1893.)

I have had under my care during the past three or four years six cases of paroxysmal neuralgia of the fifth nerve. In four the superior maxillary was alone involved, and in one the superior maxillary and ophthalmic, and in one the superior maxillary and inferior maxillary. They were all treated by stretching, and in one case the patient had been completely free from pain until death, occurred from other causes 18 months after. One case has now remained quite well for two years.

One in which the infra-orbital and supra-orbital was stretched only a couple of months ago has suffered for over 25 years and now has relief for the first time. One case remained well three years, when the pain returned and I this winter again stretched the infra-orbital at her own request, with immediate relief of the pain. One where the superior and inferior maxillary nerves were involved remained well only a few weeks when the pain recurred. This patient was a confirmed cocaine eater. It is my practice to stretch the nerve until I feel it give and then immediately close the wound. In some cases pain continued for a day or two and then left entirely. Stretching should certainly be tried before more severe operative measures are undertaken.

Bloodless Amputation at the Hip Joint by a New Method—N. SENN (*Chicago Clin. Rev.*, February, 1893,) describes a new method of bloodless amputation at the hip. The following are the stages: 1. Preliminary dislocation of the head of the femur and clearing the shaft of the bone of all soft tissues down to the proposed line of amputation through an external straight incision requires less time, is attended with less hemorrhage and shock than when this part of the operation is done after circular amputation, as advised by Von Esmarch and others. 2. The external straight incision is the same as Von Langenbeck's incision for resection of the hip-joint, only that it is longer, being about eight inches in length. 3. After dislocation of the femur the soft tissues are tunnelled with an hemostatic forceps, which is entered through the external wound on a level with the trochanter minor, to a point on the inner side of the thigh behind the abductor muscles and about two inches below the ramus of the ischium, where a counter opening two inches in length is made. 4. Bloodless condition of the limb should be secured by elastic compression or by elevation prior to subsequent steps. 5. An elastic tube three-quarters of an inch in diameter and about four feet in length is grasped with the forceps in the centre and drawn through the tunnel made by the forceps. 6. After division of the elastic tube in its centre, the base of the thigh is constricted by drawing firmly and tying the anterior

half in front of the anterior section; while, after the posterior half of the tube has been drawn tightly behind the posterior sections of the soft parts of the thigh, its two ends are crossed and then made to encircle the whole thigh, when the ends are again drawn firmly and tied, or otherwise secured above the anterior constricting tube. 7. Two oval flaps, one long, the other short, should invariably be made in every amputation at the hip-joint. 8. By preference, a long anterior and a short posterior should be made. 9. The transverse sections through the muscles should be somewhat conical in shape, the apex of the cone corresponding to the tunnel made by the enucleation of the upper portion of the shaft of the femur. 10. Resection of the end of the sciatic nerve and ligation of all visible vessels should be practised before the removal of the constricting tubes. 11. The femoral arteries should be secured each by two catgut ligatures placed half an inch apart, that on the proximal side including also the accompanying vein. 12. The posterior constricting tube should be removed first, and all hemorrhages arrested by ligation and compression before the anterior tube is removed. 13. The upper part of the wound, corresponding to the acetabulum, should be drained by an iodoform gauze tampon, and the remaining part of the wound by one or more tubular drains.

A New and Safe Method of Cutting Œsophageal Strictures.—Dr. ABBE (*New York Medical Record*, February 25, 1893), after describing the great risks of internal œsophagotomy, recommends a method which he has devised of cutting internally in tough and extensive strictures by means of a string. The principle involved is a commonly experienced one—that even a blunt object like a string, if drawn across a tense tissue, will produce a cut which would not occur if the tissue were flabby. In treating stricture cases, the stricture is made tense by dilating it with a bougie, and the string only cuts as long as the bougie maintains local tension at the site of the stricture. Dr. Abbé relates a case in which this method was successful and describes the procedure as follows: "The obstruction was 13½ inches from the teeth of the patient, and it was believed that there was considerable pouching above the stricture. Having

first made an opening in the œsophagus at the usual site in the neck, the stomach was next opened after being stitched to the abdominal wall. Passing his finger through the cardiac orifice, he guided a very small conical gum elastic bougie through the opening and passed it upwards into the œsophagus with some force; to the end of the bougie was affixed a piece of heavy braided silk, and this was drawn out through the wound in the neck. The stricture was very dense and about an inch in length, its lower end being about two and a half inches from the stomach. With the thread as a guide he now proceeded to dilate, but found the obstruction too firm to yield. Then with the conical end of the bougie tightly wedged in the stricture, the string was now pulled upward at the neck and the stricture was felt to yield. Three large bougies were passed successively and each was tightly wedged in, whilst the string was see-sawed back and forth. Thus the stretching was kept at its maximum, and the bougies passed with great ease the whole length of the œsophagus. The bleeding was insignificant. After the dilatation he drew up into the œsophagus to a point higher than the stricture a rubber tube the size of one's finger and left it in situ, the lower end coming out of the gastrostomy wound, thus giving patient a chance to rinse her mouth frequently. Nutritious food was introduced into the stomach. At the end of a week the same procedure was again practised with bougie and string under ether, but afterwards without an anæsthetic. After eight weeks the gastric fistula was closed by operation, the œsophageal fistula having closed spontaneously in two weeks. Convalescence of patient was perfect and bougies passed with greatest ease.

Removal of Pressure Pouch of Œsophagus.—At a meeting of the London Medical and Chirurgical Society, held April 25, 1893, Mr. Butlin read a paper on the above subject. The diverticulum or pouch was removed through a long incision on the anterior border of the left sterno-mastoid muscle. The omo-hyoid and inferior thyroid arteries were divided, the carotid sheath and its contents drawn aside. The pouch was easily found and separated from the surrounding tissues. As the

pouch was cut away the opening into the gullet was closed with fine silk sutures. The patient made a rapid and excellent recovery. Bergmann, of Berlin, had reported a case, and Kocher had operated on two cases successfully. Mr. Butlin said these "pressure pouches" always occurred at the junction of the pharynx with the œsophagus, and in every instance sprang from the posterior aspect of the tube.

Impacted Peach Stone Removed from Œsophagus through a Wound in the Stomach.—Dr. J. M. T. FINNEY reports the case (*Johns Hopkins Hosp. Bull.*, 1892,) of a man, aged 49, who accidentally swallowed a peach stone, which became impacted in the œsophagus, 32cm from the incisor teeth. At the end of four days being unable to swallow anything, gastrotomy was performed, and the stone could be easily felt by forceps lying in the œsophagus, but could not be displaced. The opening in stomach being enlarged the whole hand was introduced, but the fingers could hardly touch the stone, so a probang was passed through the stomach into the œsophagus, passed up and by the stone until it came out of the mouth. A sponge was tied to the probang and then it was drawn back, pulling the sponge with it. This proceeding was successful in dislodging the stone from the lateral pouch in which it was, and then it was easily hooked out with the finger. The patient made an excellent recovery for two weeks, when symptoms of mediastinal suppuration began to manifest themselves, and soon there was a large collection of pus between the diaphragm and the left pleural sac. A portion of the eighth rib was excised and the cavity opened and drained. Improvement with rapid recovery followed.

Chronic Relapsing Appendicitis Treated by Operation.—Dr. WM. T. BULL reports twelve cases of operation for the above affection (*N. Y. Med. Rec.*, March 18, 1893), with one death. In eight of the cases there was a definite tumour; in four cases there was no tumour, but a tender area. All the cases presented features of chronic inflammation of the appendix with relapses, a condition termed "chronic relapsing appendicitis." These differ from "recurring appendicitis" in that the latter occur at long intervals irregularly, and are

followed by periods of good health. Each attack is really an indpendent affection. In chronic relapsing appendicitis there is no return to absolute good health; there are always such evidences of disease of the appendix as local pain or discomfort, increased on exertion, tenderness, tumour, and to these symptoms are added frequent exacerbations of acute inflammation. These are the cases in which Dr. Bull advises operation. Eight out of the twelve cases were between 25 and 40, two over 40, two were under 20. All but one were men. Dr. Bull prefers to operate during the period of quiescence, because the danger of sepsis is less, and he also advises early operation before successive attacks of peritonitis conceal and bury the appendix and make the finding of it a difficult and sometimes dangerous proceeding. In operating he prefers the oblique incision, beginning about an inch above the middle of Poupart's ligament and extending upwards and inwards some three or four inches to a point midway between the navel and anterior superior spine of the ilium. The appendix, recognized often by touch alone, is freed and ligated a quarter of an inch from the cæcum. The cæcum should then be wedged about with sponges, the ligature removed from the appendix stump, the mucous coat pulled out with a hook and its lumen constricted with a fine silk ligature. The peritoneal coat is then pushed back from it and the tied tip inverted into the lumen of the cæcum. This inverts the peritoneal coat as well, and three or four Lembert sutures of fine silk through the adjacent wall of the cæcum close the circular opening in a longitudinal direction. When feasible, this is the most perfect way of disposing of the appendix stump. A tent of iodoform gauze should be used only when pus has been encountered. The abdominal wound should be sutured in layers, one each of catgut through the peritoneum and aponeurosis, the other of silkworm gut through all the layers except the peritoneum. Boiled water only was used for irrigation. Mural abscesses occurred in four cases.

Mr. Fred Treves, in a paper entitled *A Series of Cases of Relapsing Typhlitis Treated by Operation*, reports a series of fourteen cases operated on without a death (*British Medical Jour-*

nal, April 22, 1893). The author still believes that the cæcum may be the origin of the trouble from the lodgement there of fæcal masses or a bolus of undigested food, though he adds that in 90 to 95 per cent. of the cases the mischief originates in the appendix. He thinks the affection more common in males than females, and that when the local symptoms persist between the attacks there is great probability that pus is present. Mr. Treves considers the operation to be justifiable when: 1. The attacks have been very numerous. 2. When the attacks are increasing in severity and frequency. 3. When the last attack has been so severe as to place the patient's life in considerable danger. 4. When the constant relapses have reduced the patient to a condition of chronic invalidism and rendered him unfit to follow his occupation. 5. When, owing to the persistence of certain local symptoms during the quiescent period, there is a probability that a collection of pus exists in or about the appendix.

In operating Mr. Treves waits until all the acute symptoms have subsided. The incision should be made about two inches in length, at right angles to a line drawn from the anterior superior spine to the umbilicus two inches from the spine. In dealing with the appendix it is well to make a circular cut through the peritoneum just on the distal side of the spot at which it is intended to sever the process. The peritoneum thus freed is turned back, as is the skin, in a circular amputation. The appendix is tied across at the line of the reflected peritoneum, the mucous membrane which presents is scraped away with a spoon, the muscular wall of the appendix is then brought together with a continuous suture of fine silk over the stump thus formed, the reflected peritoneum is drawn and secured in place by means of a few points of Lembert's sutures. This procedure is only possible in some cases.

The Radical Cure of Inguinal Hernia in the Male.— It is interesting to receive the reports of results of operations for the radical cure of hernia after some time has elapsed. Dr. Halsted (*Annals of Surgery*, *May*, 1893), in an excellent paper on the above subject, gives the results in 82 operations which have

been performed during the last three and a half years in the Johns Hopkins Hospital. There were no deaths. Sixty-four of the cases were males, and 18 females. Of the females, 4 had femoral, 13 inguinal and 1 umbilical hernia. Of the males, 63 had inguinal and 1 femoral hernia. In 58 cases, Halsted's own operation was performed, and in the cases which healed *per primam* not one recurred. The wounds which suppurated were immediately laid open and healed by granulation. There were six recurrences in cases healed by other than Halsted's operation, or where suppuration occurred.

Halsted's operation resembles much that of Bassini—slitting up the old canal and endeavouring to make a new one. In both the cord is transplanted, Halsted placing it between the skin and aponeurosis of the external oblique, and Bassini between the external and internal oblique. Halsted reduces the size of the cord by excising the superfluous veins. Only one row of mattress sutures is used by Halsted, whereas Bassini uses two, to close the canal and keep the cord in position. The following is briefly the method of Halsted :—

Instead of trying to repair the old canal, he makes a new canal and a new internal abdominal ring. The new ring should fit the cord as snugly as possible, and the cord should be as small as possible. The skin incision extends from a point about 5 c m. above and external to the internal abdominal ring to the spine of the pubes. The subcutaneous tissues are divided so as to expose clearly the aponeurosis of the external abdominal oblique and the external ring. The aponeurosis of the external oblique muscle, the internal oblique and transversalis muscles and transversalis fascia are cut through from the external abdominal ring to a point about 2 c.m. above and external to the internal abdominal ring. The vas deferens and blood vessels of the cord are isolated, and all but one or two of the veins of the cord are excised. The sac is carefully isolated and opened, and its contents replaced. A piece of gauze is used to replace and retain the intestines. With the division of the anterior wall of the spermatic canal the neck of the sac vanishes, and the communication with the abdominal cavity is often

large enough to admit the hand. The peritoneal cavity is closed with a continuous suture or a few mattress sutures, and close to these the superfluous sac is cut away. The cord is pulled out of the wound and hooked aside to facilitate the introduction of the six or eight deep mattress sutures which pass through the aponeurosis of the external oblique and through the internal oblique and transversalis muscles and transversalis fascia on the one side, and through the transversalis fascia and Poupart's ligament and fibres of the aponeurosis of the external abdominal oblique on the other. The two outermost of the deep mattress sutures pass through muscular tissues and the same tissues on both sides of the wound. They are the most important stitches, for the transplanted cord passes between them. The cord is brought out where the muscles are thick and firm, and if at the internal ring they are attenuated the cord is transplanted further out.

Dr. Halsted never resorts to drainage, but closes the external wound by a continuous subcutaneous suture of fine silk. He dwells on the importance of complete asepsis, for in this operation it is most necessary where the tissues are constricted with deep sutures. Great tension, however, should be avoided, for the better the circulation the less the danger of suppuration.

In conclusion, Dr. Halsted says the time has come when one may operate in almost every case of hernia not only without danger to the patient, but with an almost certain prospect of success. With regard to the statistics of mortality: Swensson and Erdman had one death in 106 cases; Macewen, one death in 98 cases; Bassini, 250 cases, with one death; Lucas Championnière, 111 cases, with one death; Kocher, 119 operations, with one death; and Halsted, 82 cases, with no death.

As regards the ultimate results. Macewen failed once in 98 cases, Bassini seven times in 251 cases, and Halsted asserts that no failures have occurred in operations performed by his method, which has now been in use nearly four years. This is hardly a fair conclusion, for if suppuration occurs in his cases he immediately lays open the wound and converts the operation into an open one and classes it as a failure by the open method.

Now, in his operations the cord is always transplanted, and is immediately under the skin. Should suppuration or any severe inflammatory process occur, is the cord in any way injured? In other words, is the lumen of the vas deferens obliterated? This is an important question in these operations.

Observations on the Mechanical Treatment of Hernia at the Hospital for Ruptured and Crippled of New York.—Drs. Bull and Coley, in a paper on the above subject (*Annals of Surgery, May*, 1893), give the results of mechanical treatment, and say that a certain number of favourable cases, especially in children and young adults, are cured, and permanently cured, by wearing a truss for a longer or shorter period. It is also true that a large number of cases are found in which the hernia is perfectly controlled by a truss, with but slight, if any, inconvenience to the wearer. In another class of cases the truss fails to hold completely, because of adherent and irreducible omentum; 298 of these cases were observed in one year. The treatment of this class of cases by mechanical means is seldom satisfactory, and in the majority of cases positively harmful, and the authors believe that the majority should be treated by operation.

In speaking of the operative treatment of hernia in children, cases in which a truss is doing no good are advised to be operated upon. Forty cases were operated on by the writers during past fifteen months, and in 38 primary success was obtained. No deaths occurred. Bassini's operation was performed, and kangaroo tendon was used for the buried sutures, and gave the greatest satisfaction. There has been no tendency to form sinuses, as when silk sutures were used, and even where silkworm gut is employed. In the treatment of the operation wounds no drainage was used, and the results show that it is unnecessary. In addition to the usual antiseptic dressing of iodoform and sublimate gauze, a light plaster of Paris casing was applied from the umbilicus to the ankle; this was left on for eight days, when the wound was dressed for the first time. After the first dressing, a spica bandage is all that is required.

As to the final results of the cases operated on, the time is

too short to give satisfactory statistics; but, so far, there has been but one relapse after Czerny's operation and one after Bassini's. Both failures were due to faulty *technique;* silk sutures were used, and extensive suppuration took place.

The most interesting point of this most valuable paper is the one referring to relapses after radical cure operations. No less than 56 patients who had been operated on by 11 different methods presented themselves for treatment by trusses. These, added to a similar series of cases already reported by Drs. Bull and Milliken (covering observations during three years), made a total of 137 operations for radical cure. The methods mostly employed were those of Heaton (10), Czerny (25), Socin (10), McBurney (39), Macewen (9), and Bryant (2). In 18 the method was unknown. Relapses occurred at periods varying from a few weeks to 4½ years. These relapses probably represent but a small proportion of the cases operated on. More relapses occurred after treatment by the open method than any other.

The authors remark that the constant appearance of patients in whom the attempt to cure has failed must have the effect of diminishing one's confidence in the ultimate results of the radical cure method employed. The propriety of the operation has been amply justified by its very slight mortality and its incontestible benefit in cases of strangulated and irreducible hernia. Even after relapse, the majority of patients find themselves better than before operation. The conclusion that the authors come to regarding radical cure operations is that all "open methods" of operation after which the wound is left to heal by granulation should be discarded, and the feature of every operation should be rapid *primary union*.

There is very little doubt that permanent cures after radical operations depend chiefly on the success of the operation from an aseptic point of view. The method of operating does not seem to influence the good result so much as the method of union of the incision. If by primary union, then the chance of a permanent cure is very much greater. There are three points in the performance of radical cure for hernia that should be remem-

bered: (1) the necessity of obliterating the sac by excision, &c., (2) the obliteration of canal, and (3) the obtaining of primary union in the wound. Primary union can only be obtained by the strictest aseptic precautions, the avoidance of too great tension in the deep sutures, and closure of the wound without drainage, or 24 hours' drainage at the most. Suppuration, if extensive, is sure to cause a speedy relapse of the hernia.

Resection of the Intestines in Gangrenous Hernia.—At a meeting of the Royal Medical and Chirurgical Society, held March 28, 1893, Mr. Kendal Franks read a paper on the above subject. He related the case of a woman, aged 30, who had umbilical hernia of three months duration. It became strangulated September 22, 1891. Thirty hours afterwards herniotomy was performed. The abdomen was found to be full of gelatinous fluid, associated with an ovarian tumour. The loop of the intestine proved to be gangrenous, 9¼ inches were excised and the ends of the intestine immediately united by means of Gily's suture. The abdominal cavity was closed and drained; on the fifth day the bowels moved and recovery was rapid. Five weeks after the abdomen was again opened and an ovarian multilocular semi-solid cyst removed. The sutured intestine was inspected, the union was perfect, the line of union could be felt as a thickening of the gut but could not be detected by the eye. Mr. Franks said gangrenous hernia might be treated on one of two principles, either by resection and immediate suture or by the formation of an artificial anus. The death rate of treatment of gangrenous hernia by artificial anus was 80 per cent. The death rate of immediate suture in gangrenous hernia was 48 per cent. Mr. Franks is strongly of the opinion that gangrenous hernia should be treated by resection and suture, except in those cases which needed immediate treatment and which could not stand a prolonged operation, then an artificial anus should be established. In the discussion which followed Mr. J. Hutchinson, Jr., advocated immediate resection, not through the hernia wound, but through a median incision, and then suturing the two ends by a continuous suture through the mucous membrane and a Lembert's suture of fine silk for the rest of the wall.

Mr. Bowlby said that from statistics gathered from St. Bartholomew's, Guy's and St. Thomas' Hospitals by Mr. Berry for a period of ten years it appeared that the mortality from all cases of strangulated hernia operated on was 44 per cent. in 946 cases. In only 40 of those admitted during the last ten years at St. Bartholomew's were the intestines gangrenous.

Dr. Carl Beck, in an article entitled *Resection of Intestines in Gangrenous Hernia*, reports four cases of resection, two of which were successful (*N. Y. Med. Rec.*, April 8, 1893). In summing up the author says that intestine suspected of gangrene is to be drawn outside the abdominal wound properly enveloped in sterilized gauze, in order that in a few days the surgeon may return and resect the same. If positive gangrene manifests itself an extensive resection of the gut is to be performed, the chief requirements for success being radical disinfection of surroundings and the prevention of the escape of intestinal contents into the abdominal cavity. He advocates immediate suture with a row of continuous deep sutures and external Lembert; no plates should be used. In conclusion he says: "The *technique* of resection of the intestine is extremely difficult and not comparable to common laparotomy. No surgeon should perform the same before he has sufficiently practised on animals. An operator may be able to resect an ankle joint well and still perform resection of intestines poorly. * * * * Experiments with this method can so readily be gained by practising on lower animals that 1,000 cats' lives sacrificed are not too much to save a single human life imperilled by imperfect surgery.

Laparotomy in Shot Wounds of the Abdomen.—Dr. James Kerr, of Washington, D.C., has a most interesting article on the above subject (*Virginia Med. Monthly*, Feby., 1893), in which he gives statistics of 49 operations and reports two of his own, one of which recovered, the other had extensive injuries to other organs, as the kidney and gall bladder, and recovery was a thing not to be expected. In conclusion he says: "The operation of laparotomy for gun-shot wound is mainly formidable because of intestinal suture, at present made doubly so by the

various and complex mechanical arrangements for anastomosis. In the vast majority of cases enterectomy is not required, and if hospitals would keep on hand a dozen of Sharp's No. 8 milliners' needles, threaded with ordinary black silk and kept sterilized; if we did not bother with intestinal clamps but would trust to gauze and our assistants' fingers, the contemplated difficulty of this operation would be materially reduced."

Tubercular Peritonitis.—In speaking of this disease and its treatment, Dr. H. P. Hawkins (*St. Thomas Hospital Reports*, 1892,) comes to the following conclusions: (1) Operative successes occur in cases of moderate or extreme ascites in the very cases which so commonly recover under medical treatment. (2) There is little difference in the mortality of the cases, whether operation is resorted to or not; such slight difference as does occur is in favour of operation. (3) No harm seems to have occurred from the operation, and even in the most glaring and hopeless cases some degree of improvement seems due to the operation (4) Such merit as may be allowed the surgical treatment lies (*a*) in a more prompt and complete removal of fluid than is usually practised in medical wards, and (*b*) the removal of large masses of lymph and caseous products. (5) The washing out the abdominal cavity with germicidal solutions is not only futile, but wrong in principle. Koenig found in 131 cases that the mortality was greater with irrigation than without. (Quoted in *Annals of Surgery*, April, 1893)

Choledochostomy.—Terrier (*Rev. de Chir.*, February, 1893) has collected four cases in which an external fistulous opening was established in the common bile duct. In three of these the duct was much distended, and formed a distinct abdominal tumour. The first was one in which median laparotomy was performed for the removal of a swelling diagnosed as a cyst of the pancreas. The nature of this swelling having been revealed by the discharge of bile after puncture, a small portion of the wall of the cyst was excised, and the edges of this opening were attached to the external wound. The biliary fistula thus formed bled freely for some days after the operation, and subsequently suppurated. The patient died from anæmia and exhaustion on

the twenty-ninth day. In the second case the much distended duct, which had been regarded as a hydatid cyst of the liver, was exposed by laparotomy, incised, and attached to the wound in the abdominal wall. The patient died from collapse on the eighth day. In the third case the dilated duct was opened and stitched to the external wound under the supposition that the tumour was a distended gall bladder. In the original report of the fourth case it is not clearly stated whether the duct was distended or not. In this instance the hepatic portion of the divided duct was fixed to the surface of the abdominal wall after removal of the gall bladder, the cystic duct, and a small portion of the liver for cancer. The patient did well for some time after the operation, but died six weeks later from cachexia. In his comments on these records, Terrier points out that in two of these cases the distension of the bile duct, though clearly due to obstruction, was not associated with lithiasis. In the third case the duct was found to be completely obstructed at its intestinal orifice by a small calculus. In each instance of distended bile duct the gall bladder was much shrunken, and its walls were sclerosed and surrounded by cicatricial tissue. Although hitherto the results of choledochostomy have always been fatal, probably in consequence of the fact that extreme distension of the bile duct is often accompanied by infection of the biliary passages, it would be well, Terrier thinks, to reserve our opinion as to the prospects of the operation. Very little information can as yet be obtained on this subject, cases of distension of the common bile duct being very rare, and those in which surgery has interested itself still more exceptional.—*British Medical Journal, April 8th*, 1893.

Treatment of Hepatic Colic with and without Icterus.—Riedel in a monograph (*Hischwald Berlin*, 1892, and *Centrl. f. Chirurgie, Nov.* 19, 1892) reviews 52 cases of gall-bladder surgery. He reserves internal treatment for short attacks with icterus. The indications for operation are: Colic without icterus; persistent icterus caused by impacted gall-stone in the common duct; and suppuration in and around the gall bladder. He favors the two-sided operation, believing that it is impossible

to thoroughly examine the bladder through one opening. A stone cannot positively be removed in one operation, and therefore prolonged drainage is beneficial in promoting a return to a normal condition. Many gall bladders, from their size, cannot, without harm, be opened on one side alone. In the case of impacted and deep-seated gall bladder, the author procures outside drainage by forming a canal of the parietal peritoneum dissected up, with or without the fascia transversalis, and united together and to the gall bladder. The fistulæ, though often difficult to close and sometimes requiring dilatation of the cystic duct by laminaria tents, usually close by the two-sided operation in two to six weeks. In 21 cases of colic without icterus, 10 were completely healed, one died and one was not cured; 18 with jaundice, three died and 15 were cured.—*Am. Jour. Med. Sc.*, *June*, 1893.

A New Method of Bone Suture.—Dollinger (*Centralbl. f. Chir.*, No. 2, 1893) describes a new method of bone suture which he has made use of in two cases where perforation of the bone could not easily be carried out. The first case which he treated was a patient, aged 43, with a pseudarthrosis of the right leg, coming on after a fracture which had occurred fourteen weeks previously. At the operation the bones at the seat of fracture were found to be ivory-like, the medullary canal was scarcely visible, and there was no trace of callus formation. The tibia, which was fractured transversely, was sutured with silver wire in the usual way. The fibula was fractured in two places, the middle piece, about four inches long, lying loose. Whilst an attempt was being made to perforate the hard middle piece it began to separate from its periosteum. Perforation was not further attempted, but a ring of silver wire was placed around the upper part of the upper fragment a little above the seat of fracture, and a similar ring around the upper part of the middle fragment. A piece of wire was then placed on each side of the fragments, parallel to the long axis of the bone and within the two rings encircling the bone. The rings were then tightened up and fixed, and then the longitudinal wires were doubled over and their ends united on each side.

By this means the fragments were held in position. The lower end of the middle fragment and the upper end of the lower fragment were next united in the same way and the ends drawn together. In eight weeks there was complete bony union. In the second case the tibia was sutured in like manner, after a piece had been resected along with an osteochondromatous tumour which had developed in the part. The bony ends which were approximated after the removal of the resected part were hard and ivory-like, and did not easily admit of suture in the ordinary way.

Improved Tecnique in Bone Suturing.—Ville (*Centralblatt f. Chir.*, November 19, 1892,) claims that bone suture is the preferable method in cases of ununited fracture. He advocates the use of the ordinary machine for drilling steel. The drill can be fastened tightly in it; it bores in one direction or turns the drill in but one; it does not require space for rotation and works rapidly. The drill may be provided with an eye, but it must be seen to be threaded, he therefore prefers a hook that is like a probe in form, but has the eye cut through at the side and can carry a No. 3 silver wire and easily pass with it through a hole bored by No. 10 Chassière drill. With this the wire can be easily passed through one opening and withdrawn through another without the necessity of seeing the eye. The line of suture should be perpendicular to the plane of fracture; this prevents shifting and angular deformity. In diagonal fractures this may be accomplished without drilling by grooving the bone in a plane perpendicular to the plane of fracture and twisting silver wire tightly in this groove, or by drilling through both ends of the bone in a line perpendicular to the plane of fracture, passing a double wire suture by means of the suture tenaculum dividing it and uniting the suture on each side of the bone.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

Dr. Roddick's Wards.

Reported by H. B. Carmichael, M.D., House Surgeon.

Case I.—J. P. R., aged 21, was admitted into the hospital December 24th, complaining of general abdominal pain and tenderness, latter most acute in the right inguinal region; vomiting, constipation. Temperature 101 1-5, pulse 120, hard and wiry; respirations 20.

History of Illness.—On the afternoon of December 20th patient felt a slight pain in the abdomen just below the umbilicus; he had his dinner shortly after this, and then pain gradually increased, followed by vomiting about one hour after dinner. Vomiting and retching continued all that afternoon and evening, when Dr. Finley saw the patient and found most tenderness in the right inguinal region, but pain was general all over the abdomen. Pain and tenderness increased during the following three days and was relieved by hypodermic injections of morphine.

Condition on Entry.—On the evening of the 24th, patient was admitted to hospital, when the following condition was discovered: General abdominal pain, acute tenderness in the right inguinal region. A tense mass, dull on percussion, in this neighbourhood also very noticeable. Immediate operation was proposed, but patient objected until friends were communicated with.

Personal History.—Patient as a child was very delicate; had typhoid fever when ten years old, measles at 12; when 13 years of age, after suffering severely off and on for nine months he passed a small stone about the size a bean through his urethra. No history of acute rheumatism. A history of quinsy recurring almost every winter since the age of 16, each time the abscess bursting into the mouth. Had gonorrhœa when 20 years of age, lasting about a month. Smokes moderately, uses liquor freely.

Family History.—Negative.

Present Condition.—Is a delicate looking young man, muscular system not very well developed. Digestive system, appetite usually good and bowels regular. Circulatory system, loud systolic murmur (mitral). Pulse rapid and wiry, sometimes irregular or intermittent. Respiratory system, normal. Genito-urinary system, urine Sp. gr. 1020, acid, a trace of albumen, no sugar.

Operation December 25th by Dr. Roddick, assisted by Dr. James Bell—Patient was etherized and an incision made about four inches in length a little external to McBurney's point. A quantity of pus was reached before entering the abdominal cavity. The appendix was found to have been ulcerated through and was partly gangrenous. (On slitting it open after operation a fæcal concretion about size of a small bean was found imbedded in it.) The appendix was ligatured with silk and removed very close to the cæcum, that end of it being cauterized. Abdominal cavity washed out with boracic solution, incision sutured with silkworm gut, a glass drainage tube was inserted and iodoform gauze passed through this to the bottom of the cavity. Wound was dressed with powdered iodoform, flat wet gauze, and over that absorbent cotton, the whole kept in place by rubber adhesive plaster.

Diary.—Temperature evening of operation 100°, pulse 100. Recovered easily from effects of anæsthesia; complained of a good deal of pain; was dressed about 10 o'clock and very little oozing present.

December 26th—Temperature 100½°, no distension; Wound dressed and a small quantity of pus evacuated by means of a rubber tube attached to a glass syringe. Temperature remained about 100½° and pulse 100 till December 30th, when drainage tube was removed (*i.e.*, on the sixth day). Wound was dressed regularly twice daily and tube evacuated as described, but very little oozing came away. Patient experienced a good deal of pain up to this time and was relieved at night by 10 ♏ Battley's solution hypodermically.

December 27th—Frequent diarrhœa stools of gelatinous character, for which bismuth sub-nitrate (gr. xv) was given.

December 28th—No improvement in diarrhœa, bismuth and opium used.

December 29th—Two a.m. patient was catheterized and urine withdrawn, about 30 oz. Diarrhœa about the same.

December 30th—Tube removed and tract packed with iodoform gauze; enema of starch and laudanum, which lessened diarrhœa.

December 31st—Given ½ oz. castor oil, followed by 20m laudanum. In the afternoon given another enema of starch and laudanum. Diarrhœa continued to January 3rd and was of the same gelatinous, slimy nature.

January 3rd—Patient experienced a severe rigor about 5 p.m, followed by a rise of temperature to 103°, next hour 105° (cause unexplained). Profuse sweating, and within two hours from time of chill temperature dropped again to 100°.

January 5th—Patient spent a very comfortable day, but during the night vomited five times.

January 6th—At 1 a.m. complained of great pain on attempting to micturate and pain along urethra during the act. Was catheterized with soft rubber catheter, passing it in causing pain in the posterior urethra. Thirty-eight ounces of foul, turbid alkaline urine were drawn off and found to contain abundant phosphates, little or no albumen (urine previous to this had been clear and acid). At 2 a.m. temperature rose to 104 1-5°, without any noticeable chill, falling again in two hours to 101°.

January 8th—Stitches were removed 15th day after operation. Wound where glass tube was placed superficial and about size of 25c. piece. After this date patient rapidly improved in health and strength, but urine remained alkaline, the pain on micturition gradually disappearing.

February 6th—Patient was discharged to-day, wound completely healed; a cotton spica bandage used as a support.

Temperature on admission 101 1-5°, after operation 100°. For first three weeks range about 101½° at night with exception of two temperatures mentioned previously. For second three weeks range about 99½° at night. Night previous to discharge 98 4-5°. Temperature normal day of discharge.

Pulse improved after operation, becoming softer and more regular, at times during convalescence it was irregular and intermittent.

Medicinal Treatment—A purgative on entry; diet, milk and soda or boiled milk. When required for pain 10 min. Battley's solution of opium. Stimulant, brandy ℥ss. q. 2 h., quinine sulph. gr. V every 8 hours. For sleeplessness, phenacetine as required. For diarrhœa, bismuth, opium, and enemas of starch and opium—pil. plumbi cum opio.

January 10th—Diet improved, chicken broth and toast, beef tea, eggs, etc. For bladder and urethral trouble, former washed out with solution of boracic acid twice daily; internally inf. triticum repens and a capsule of cubebs and copiva T.I D.

This was the first attack.

Case II.—W. L. M., aged 13, was admitted to hospital December 30th, complaining of general abdominal distension, pain and tenderness, latter most acute in the right inguinal region; vomiting and constipation.

History of Illness—Began December 22nd with great pain in the abdomen and vomiting, was troubled in the same way the following day.

On the 24th patient was feeling very much better and for the following four days was fairly well and complained of no pain Early on the morning of the 29th the pain began again, gradually becoming worse, was felt all over the abdomen, and was accompanied by vomiting and retching. On the morning of the 30th patient was delirious for a few moments at times, pain and vomiting continuing; in the afternoon he was removed to the hospital for immediate operation.

Condition on Entry—Patient was in an extremely sick condition. Temperature 103, weak and listless; pulse small and rapid; abdomen distended, tender, more so in right inguinal region, where on palpation a tense tender mass could be discovered, dull on percussion.

Operation.—The same as the one previously described. Ether the anæsthetic. Very little pus was discovered, but the appendix was found matted together with the omentum by old

inflammatory adhesions; this omental tissue was tied off and the appendix afterwards removed. This latter was found to be large, inflamed and ulcerated. Imbedded within it was a fæcal concretion about the size of a bean.

Personal History—Patient has never been a very strong boy; had measles and chicken-pox when a baby. When about 10 years old and again about 12 patient was laid up for about three days each time with great abdominal pain and vomiting, attacks very similar to the commencement of the present one.

Family History—Immediate family history negative. One aunt died of phthisis; grandmother on mother's side died from cancer of stomach; grandfather from epithelioma of lip.

Present Condition—Patient is a fairly healthy boy, small for his age; muscles flabby; appetite fair and bowels usually regular; circulatory and respiratory system normal; genito urinary system normal.

Diary—December 30th, recovered well from operation. Complained of a good deal of pain about 9.15 p.m. from abdominal distension, which was relieved by soapsuds and turpentine enema. First dressing at 10 45 p.m., a good deal of discharge coming away. Vomiting and hiccoughing a little during early part of night. Given 6 ♏ liq. opii. sed. at 1.45 a.m., after which patient slept well.

December 31st—Dressed morning and evening; vomited once during the day; very restless during night; enema and hypodermic repeated. Patient remained about the same for several days and nights, the greatest trouble being constipation and flatulent distension.

January 4th—Small stitch-hole abscess formed, discharging pus and very painful; stitch removed and abscess opened.

January 7th—Glass drainage tube removed.

January 10th—Second small stitch-hole abscess formed. Stitches were removed by degrees, the last one January 15th.

January 15th—Patient was sufficiently well to be removed to his own home. Wound superficial; abscesses not completely healed; distension disappeared and bowels regular.

Temperature on admission 103°, after operation 100°. De-

cember 30th, midnight, 102½°; midday December 31st, 101°, midnight 99 4-5°; January 1st, midnight, 101 3-5°, after which date it was never above 100°. Night previous to discharge temperature 99°, day of discharge below normal. Pulse and respirations natural.

Medicinal Treatment—Battley's solution as required, later phenacetine. For flatulent distensions soapsuds and turpentine enemas, mag. sulph. tinct. card. co. and spts. chloroform. No stimulants. Milk diet; January 4th allowed beef tea and gruel.

This was the third attack.

CASE III.—J. S., was admitted December 9th, compiaining of pain, tenderness and a hard mass in right inguinal region. Temperature 101 4-5°.

History—On the evening of December 7th patient was taken suddenly with pain referable to the region of the umbilicus. Dr. F. W. Campbell was called and advised hot fomentations, which relieved the pain considerably. On the 8th pain again worse, now in the right inguinal region. Pain was accompanied by vomiting and constipation. No passage of bowels from commencement of pain till after operation.

Patient was removed to hospital and operation was proposed, but patient's consent could not be gained. However, the operation was performed the following day at 1 p.m. (December 10th). An incision four inches long was made in the right iliac region; on cutting down towards the peritoneum a collection of pus was found coming through an opening in the peritoneum; passed in a director and opened it further with a blunt pointed bistuory.

The appendix was found to be ulcerated through, and on removing and opening a fæcal concretion was seen embedded in it. The appendix had become gangrenous.

Patient's temperature after operation 97°, following morning 99 1-5°, that evening 101 1-5°. Night following operation patient complained of distension, which was relieved by soapsuds and turpentine enema. Patient was troubled with uncontrollable hiccough and vomiting till death, December 13th, 6 a.m. Treatment for vomiting, cocaine every three hours; treatment for hiccough, mustard paste.

Correspondence.

ON "SEBORRHŒIC ECZEMA."

To the Editors of THE MONTREAL MEDICAL JOURNAL.

The eczemas, or eczematous diseases of the skin, if understood in their widest sense (as the Vienna school of dermatologists understands them), include a number of different clinical types, as many, perhaps, as might be classed in a general way under the head of catarrhal inflammations of the mucous membranes. During recent years Dr. Unna, of Hamburg, has added to this already extensive group of diseases several which hitherto have been considered and described as essentially diseases of the sebaceous glands. These, together with some forms always regarded as eczemas, he groups under the name of "Seborrhœic Eczema."

What, then, are the types of disease which, in Unna's opinion, belong to this class?

1. Seborrhœa capitis, or pityriasis capititis, familiarly known as scurvy or dandruff and called by Unna eczema seborrhoicum syriamosum. This condition of the scalp is very usually accompanied by a certain amount of hyperæmia and itching, and in some patients very readily lights up into an unmistakable eczema. It may fairly be considered as a dry catarrh, and no doubt affords excellent soil for minute parasitic growths. On the other hand, it is a little difficult to understand in what way either deficiency or excess of sebaceous secretion can produce a condition of this kind, although some dermatologists regard it as a condition of scalp analogous to the condition of skin and sebaceous glands which causes comedones of the face, back, etc. Associated with this scurfiness of the scalp, small patches of roughened skin, formerly known as pityriasis simplex, are frequently found about the face and neck of girls and young women. All these are classed by Unna amongst his seborrhœic eczemas.

2. Seborrhœa proper, where greasy crusts are found on the scalp. Such crusts, popularly known as "milk crusts," when they occur on the hands of young children, are often associated with an eczematous condition spreading on to the forehead and cheeks. Indeed, a large proportion of all eczemas

of the head and face in children are claimed as belonging to Unna's seborrhœic eczemas,

3. Lichen circinatus of Willan, or seborrhœa corporis of Duhring. This condition, commonly seen in patients with an oily skin, and situated on the chest or between the shoulders, is also claimed as a seborrhœic eczema.

4. A number of chronic eczematous eruptions affecting the back of the ears, and sometimes the folds of the joints, axillæ or groins, and frequently associated with a scurfy condition of the head.

5. Cases occupying apparently an intermediate position between psoriasis and eczema; well defined and scaly on some parts of the skin, less well defined and moist on other. Such atypical cases of psoriasis, or of eczema, are usually found in what may be called seborrhœic patients.

Are we then justified in grouping together, as Unna does, these very different clinical manifestations of disease in a single class apart?

Here are two of the most recent expressions of opinion on this complicated question:

Dr. Brocq, who may be taken as a representative of the modern French school of dermatologists, says: "These facts may be very naturally explained by admitting that a person predisposed to eczema may have at the same time a seborrhœa. This seborrhœa being more marked in certain situations causes there 'points of least resistance,' where the eczema develops most readily. When such an eczema has developed it is modified (*a*) by the seborrhœic condition of the skin, (*b*) by the secretions of the skin, and (*c*) by parasites of many kinds which multiply on this exceptionally favourable soil. Thus we have to do with an eczema of a special type—an eczema modified as to its situation and appearance by the soil on which it develops." The three first classes, as given above, Dr. Brocq prefers to retain amongst seborrhœas, to which he believes they are most closely allied.

Dr. Radcliffe Crocker, in his work on skin diseases (the most complete yet published in the English language), says: "There can be no doubt that much credit is due to Unna for an important generalization; but the majority of dermatologists, except his most faithful disciples, consider that he is giving his seborrhœic eczema too extended a meaning, which

dermatology will be a loser rather than a gainer by adopting unreservedly." Dr. Crocker subsequently describes the first two morbid types as seborrhœas, and the others as seborrhœa lichenoides, seborrhœa eczematiformis, and seborrhœa psoriasiformis, respectively.

This whole question, of which only the most imperfect outline is here given, requires further light and fuller investigation. It may be suggested, however, that Unna's hypothesis requires too much if it requires us to believe, as it seems to do, that because there is a certain amount of sub-acute inflammation in seborrhœa capitis and other forms of seborrhœa, therefore they are eczemas. There is evidently a wide step here. On the other hand, it seems more than probable that such a chronically inflammed scalp affords an ideal soil for the development of an acute eczema, and that in a predisposed patient a very slight cause would be sufficient to bring about this result.

In what way and to what extent parasites play a part in these morbid processes it is at present very difficult to say. Is their relation ætiological or merely accidental; do they, in other words, cause the disease, or do they merely take root and flourish on an already diseased skin? Such questions are more easily asked than answered. It seems probable, however, as Dr. Brocq suggests, that they at least modify the characters of the eruption and give it the circinate and serpiginous spreading border so frequently seen in some forms of active seborrhœa.

Again, that parasites, or the poisonous products of parasites, have an intimate association with the several forms of disease classed by Unna under "seborrhœic eczema," is rendered very probable by the nature of the remedies found by practical experience to be most efficacious in these affections. This is a practical point. In seborrhœa capitis, or corporis, and even in some of the more distinctly eczematous forms, merely soothing remedies, such as the lead lotions, or oxide of zinc ointments, are found to have as little effect in the way of permanent cure as they have in an eczematous condition dependent on scabies. The really efficient remedies in these cases, as has been pointed out by Unna and others, are antiseptic and parasiticide preparations, such as those containing resorcin,

sulphur, salicylic acid or the mercurial salts. The old adage as to treating the patient rather than the disease is applicable here as elsewhere in dermatology, and care is required in using such remedies as those mentioned, some of which are very irritating to the skin, lest instead of curing we aggravate the affection. and possibly light up an acute and rapidly spreading dermatitis, which may in a few days become almost universal, and may even endanger the patient's life. As a rule the seborrhœic scalp or skin is tolerant of rather strong applications, but in the condition described by Crocker as seborrhœa psoriasiformis, if the routine treatment for psoriasis is adopted, such as chrysarobin or the stronger tar preparations, the result is pretty certain to be unfavourable and may be disastrous.

Whether, then, we consider the several forms of disease enumerated above as being essentially eczemas with Unna, or whether we regard some of them as essentially diseases of the sebaceous glands, and others as being an eczema psoriasis engrafted on and modified by an exceptional soil, and probably complicated by parasitic invasion, as do Brocq and Crocker, we cannot but acknowledge that they constitute a group of great clinical importance, and that on account of the frequency with which they occur, as well as of the exceedingly satisfactory results which may be anticipated from well directed and, in some cases, persevering treatment, they are amongst those diseases of which a clear and accurate conception is especially desirable.

We are then, we believe, justified in concluding :

1. That Unna's "seborrhœic eczema" cannot be regarded as a separate or distinct disease, but rather as an interesting group of affections.

2. That patients in whom the sebaceous system is exceptionally active or exceptionally developed, are especially liable to these affections.

3. That eczematous, psoriasiform, syphilitic and, indeed, almost all eruptions are likely to be modified in character and appearance in the case of these patients.

4. That the skin of such patients affords an exceptionally favourable soil for the growth of many kinds of parasites,

which in their turn tend to modify the character of pre-existing eruptions, or to induce further inflammation.

5. That the treatment of these affections should, in the first instance at least, be directed against this parasitic element when present.

Unna's theory that the Seborrhœic affections are dependent largely or chiefly on the sweat glands must, we believe, be regarded as to a large extent purely hypothetical, and as yet unproved.

Dr. Rankine Dawson.

London, April 20, 1893.

To the Editors of The Montreal Medical Journal.

Dear Sir,—Desiring to present an article on the subject of "Complications of Tonsillotomy" at the next annual meeting of the Louisiana State Medical Society, I would request your readers to favour me with answers to the following questions:

1. Number of cases of hypertrophy of faucial tonsils operated upon.

2 Complications occurring during these operations, stating nature of complications and number of cases affected.

3. Method of operating in the cases in which these complications developed.

In publishing these cases I shall omit the name of the physician who reported them, if desired.

I shall mail a reprint of the article which I shall present at the meeting to those physicians who send me a report of their cases as above. Letters should be addressed to W. Scheppegrell, M.D., care of Eye, Ear, Nose and Throat Hospital, New Orleans, La.

Very respectfully,

W. Scheppegrell, M.D.

New Orleans, June 20, 1893.

Reviews and Notices of Books.

Handbook of Massage. Emil Kleen, M.D., Ph. D. Practising Physician in Carlsbad, Bohemia. Authorized translation from the Swedish by Edward Mussey Hartwell, M.D., Ph.D. Director of Physical Training in the Public Schools of Boston. Late Associate in Johns Hopkins University. P. Blakiston, Son & Co., Philadelphia.

Dr. Kleen's book is especially useful on account of the fact that it is written by one who looks on massage, not as a specific, but as a useful means of treatment in certain cases.

Massage is first defined and its history given, a careful distinction being drawn between massage and gymnastics. Massage is divided into four classes—effleurage or stroking, frictions or rubbing, pétrissage or squeezing, and tapotement or striking. This is the division of the Mezger school, and is considered by the author, to be the most rational and simplest classification. The physiological and general therapeutical effects are given as are also the contra-indications. The methods of applying massage to each organ and part of the body are detailed at length, and with great clearness. Cases are quoted illustrative of the methods used and results to be expected.

Lessons in Physical Diagnosis. By Alfred L. Loomis, M.D., LL D., Professor of the Practice of Medicine and Pathology in the University of the City of New York. Tenth edition, revised and enlarged. Octavo. Illustrations, some in color; 240 pages, extra muslin, price $3.00. New York: William Wood & Company.

In this, the tenth, edition much that is new is added and the remainder thoroughly revised to keep pace with the advance ment of science. It is a complete guide to physical diagnosis, a subject upon which no one is more competent to write than the author. Its popularity and usefulness is shown by the rapidity with which the editions have followed one another. We can recommend this as an exceedingly useful work, both to students and practitioners.

A Practical Treatise on Materia Medica and Therapeutics. With Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker. A.M., M.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases, of the Skin in the Medico-Chirurgical College of Philadelphia; Physician to the Medico-Chirurgical Hospital; Member of the American Medical Association, of the Pennyslvania and Minnesota State Medical Societies, the American Academy of Medicine, the British Medical Association; Fellow of the Medical Society of London, etc., etc, Second Edition. Revised. In two Royal Octavo Volumes. Vol. I, 353 pages: Devoted to Pharmacy, General Pharmacology, and Therapeutics and Remedial Agents not properly classed with Drugs. Volume II 630 pages: An Independent Volume upon Drugs. Philadelphia: The F. A. Davis Company, Publishers, 1914 and 1916 Cherry Street.

The first volume is devoted to remedial agents and therapeutics not properly classed with drugs, such as electricity, heat, music, mineral waters baths, etc. Pharmacy is dealt with at some length, and instructions given for prescription writing. Massage and mechano-theraphy are treated of in a clear manner and the limitations of the treatment set forth. In short, the whole field is gone over carefully and clearly.

The second volume deals with drugs proper and their therapeutics. All the new drugs are described and mention made of the latest mode of treatment, that by means of animal juices and extracts, especially the treatment of myxœdema by means of a preparation of the thyroid gland.

The first edition of this work has been exhausted in two years and we venture to predict that this, the second edition will receive just as favourable a reception.

The Treatment of Constitutional Syphilis. By Oswald Ziemssen, M.D., Knight of the Iron Cross and of the Prussian Order of the Crown, Wiesbaden. H. K. Lewis, London, 1893.

In this little book are set forth the views of the author regarding the treatment of this disease. He is of the opinion

that; "The radical cure of constitutional syphilis is possible, but there is as yet no certain proof of this at our disposal, relapses having occurred even after many years." He believes that syphilis is most probably caused by a microbe. Local preventive methods, such as excision of the chancre, he thinks are of no avail, although local treatment may be a valuable adjuvant to other forms of treatment.

General specific treatment should be adopted as early as possible. Mercury, he believes is the only drug which will cure syphilis and it must be used in very large doses, preferably by inunction. He says that mercury does not accumulate in large quantities in the tissues and that it can be proved that the diseases of the bones, etc., which attack syphilitic patients, sometimes after many years, are syphilitic, not mercurial. In speaking of the Iodides he says:—"While mercury by its antiseptic and bactericidal effect injures the microbe which is the cause of the disease, the iodide by its absorbent action removes the hyperplastic changes of the tissues which have been produced by the microbe." Hence in many cases the combined treatment, mercury with iodide, is most useful. The large experience which the author has had, coupled with his reputation as a careful observer, commend this book as one which should be studied by every practitioner.

Delafield and Prudden. A handbook of Pathological Anatomy and Histology. Fourth Edition. New York, William Ward & Co., 1892.

When a text-book attains to its fourth edition the evidence that it has reached those for whom it is written and that it supplies a demand is so strong that there is little if any need to call attention to its good points, little need to do anything more than point out that it has undergone further enlargement and revision and indicate those features in which it is still capable of improvement. Each new edition of this excellent handbook shows evidence that the authors are determined to render it the most useful and authoritative yet published, and unless we enter into the discussion of minutiæ it is very satisfactory to state that in its larger features this textbook necessitates peculiarly little adverse criticism. The arrangement is good, the descriptions of the various morbid

processes pithy, being condensed without loss of clearness. We are inclined to consider, however, that the section upon Bacteriology should either be greatly reduced in extent, or greatly amplified, for while it is necessary that now-a-days a text-book of Pathological Anatomy should call attention to bacteria and the lesions that they produce, we consider that either the descriptions should be confined to a brief account of the relationship of the individual species of bacteria to the histological disturbances induced by their growth within the organism, or on the other hand, that this branch of Pathology should be dealt with upon a scale commensurate with the rest of the volume. The bacteriological details here given are admirably clear and concise, but are just not sufficient, it seems to us, to be of aid to the practitioner interested in bacteriology, wishful to study the bacteria present in diseased tissues. As an instance in point we would refer to the directions given for the detection of the spirillum of cholera in the dejecta. While the principles given are quite correct the absence of details as to the minatiæ of such examinations renders the account useless. It would be well, also, to add a chapter dealing with that very complex subject, the cysts and cyst-privations. The new engravings in this edition, both from drawings and microphotographs, are a great improvement. It only remains to remove some of the older engravings which in comparison appear bald, and almost misleading by their diagrammatic character. We only wish that in general Pathology there existed as excellent a handbook as this in what is but one branch of the subject.

A Text-Book of the Theory and Practice of Medicine by American Teachers. Edited by William Pepper, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania. In two vols. Illustrated. Philadelphia: W. B. Saunders. 1893.

The first volume of this important work is fully up to expectations. The first article on general hygienic measures by Dr. Billings, of Washington, is worthy careful perusal. Dr. Billings is at the head of the only institute for hygiene on the Continent, and as such is highly competent to give an account

of the more important questions pertaining to public health at the present time. Dr. Pepper writes on the continued fevers. His article on typhoid is very full and painstaking. It deals with the subject more fully than we find in any other recent work. If there is any fault to be found with this work it is in the profuseness of some of its articles. This, however, does not apply to the article on typhoid fever, for on reading it it would be difficult to find any matter that would be better left out.

The articles on acute miliary tuberculosis, scrofula, syphilis, diphtheria, erysipelas, cholera, etc., are contributed by Dr. Gilman Thompson. They are carefully prepared. Dr. Whittaker writes well on the acute infectious fevers. Drs. H. C. Wood and William Osler are the authors of all the articles on the central and peripheral nervous system. These names are a guarantee that the work is admirably done.

The book, on the whole, is certainly one of great value, both to student and practitioner, to the former as a work of reference mainly.

Ophthalmic Atlas.—For Recording Pathological Conditions of the Fundus by means of Superimposed Layers of Colour. By Frank Haydon, Assistant Surgeon Western Ophthalmic Hospital, London; Clinical Assistant Royal London Ophthamic Hospital, Moorfields.

This, which is a very ingenious method of recording pathological conditions of fundus, consists of superimposed layers of colour, which can be erased by scraping, and thus show the layer beneath. The colours depicted are orange, red, black and enamel white, these layers consisting of many coats of colour. The layers are sufficiently thick so as to allow of any alteration in the size of a vessel without exposing the layer immediately beneath.

It is one of the simplest methods that could be devised, and should prove of the greatest possible value for those who wish to keep a record of the cases that come under their notice.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, February 17th, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Retro-peritoneal Myxo-lipoma.—Dr. ADAMI gave a history of and described a retro-peritoneal tumour of great size which he had received from Dr. Hannay, of Perth. A photograph and portion of the tumour weighing several pounds was exhibited to the Society. A detailed account of this rare form of tumour will appear in the next number of the JOURNAL.

Intra-mural Myoma of the Uterus.—Dr. ADAMI exhibited a large specimen of this condition which he had received from Dr. Alloway, which with the attached portion of the uterus weighed close upon two kilos. The specimen had been cut through from side to side longitudinally by Dr. Adami and showed well the relationship of the various parts. The globular mass of new tissue originated evidently at the uppermost part of the uterine wall, and growing down into the cavity of the organ had completely filled it; but its intra-mural origin could be clearly seen, inasmuch as at the edge where the projecting part of the mass joined the uterus the inner layers of the uterine muscle were reflected over the growth. The tumour was a typical uterine myoma. The specimen was exhibited to the Society on account of its relatively large size, and of the very considerable hypertrophy that the uterine wall had undergone *pari passu* with this growth into the cavity. The presence of this large globular mass arising from the fundus of the uterus and the hypertrophy of the walls gained further interest from the fact that this condition had led more than one medical man attending the patient to make the wrongful diagnosis of eighth month pregnancy.

Dr. T. JOHNSON ALLOWAY detailed the history of the preceding case. The patient was 42 years of age and had borne four children, the last four years ago; had had several opinions as to the nature of the growth, and on two occasions had been told that she was pregnant. This was not surprising, the tumour being one of those rapidly growing myomata

with a loud bruit, synchronous with the heart's action, heard over most of its surface, a form very difficult to differentiate from pregnancy. She was first seen on the 24th of January, and the operation was performed on the 31st of that month, during which time she remained in his private hospital and the usual preparatory measures were adopted.

The method of removal was by total extirpation, through an abdominal incision, of the ovaries, tubes and whole uterine body, including the cervix, as described by Eastman.

Any lacerations or tears of the peritoneum were closed by continuous sutures; this procedure takes but a few minutes and by it the cavity is totally closed.

This patient had for her highest temperature 99.6°; the pulse never exceeded 104. She made, in fact, a recovery that was surprising to him and to his colleague, Dr. Gardner, knowing the great gravity of the operative procedure. It is now two weeks since the operation and she will probably go home in one week more

In this method of removing so large a myomatous body there is the great gratification of knowing that the convalescence is so short, so smooth, and that there is absolutely no necrotic tissue left to give rise to septic changes. In the extra-peritoneal method, on the other hand, there is necrotic tissue and a great danger of sepsis, so that the patient is not really out of your hands until all this necrotic tissue separates, which does not take place for 12 or 14 days after the operation. By this method after the fourth or fifth day you may declare her absolutely free from any untoward results. Now, with reference to the other methods besides the extra-peritoneal one that have been adopted in such cases, such as where the pedicle is dropped after suturing the cervix with buried sutures, and a modification of Schroeder's old method, lately devised in Baltimore, whereby sutures buried and passing through the centre of the cervix were ligated on either side and the peritoneum turned in and sutured; these have all the two great dangers attending them of hemorrhage and necrotic changes taking place. In Eastman's method there is no danger whatever of this nature, there is no uterine tissue left to unite, only vaginal tissue, and that is covered by peritoneum. There is no doubt that this last method is a great im-

provement on all previous ones, the one drawback it has is the great difficulty of its performance. It is certainly the most formidable operation in surgery and requires not only the greatest skill, but also the greatest endurance.

Dermoid Cysts of Both Ovaries.—Dr. ADAMI exhibited two ovaries received from Dr. Alloway, both of which contained dermoid cysts. The right ovary was represented by a large, relatively thick walled cyst 4½ inches in diameter. This upon first opening was found to be filled with a brownish blood stained fluid, and in this could be distinguished old blood clot, a large amount of fatty debris, cholesterin crystals and hairs. On removing these and washing out the cavity two fully formed teeth were found projecting into it from a patch somewhat raised above the level of the rest of the wall, and upon this patch were numerous hairs growing from the epithelial coat. The fat was due in part to degeneration of the cells and cell-debris thrown off the surface of the cyst, but probably, as has been found in other dermoid cysts, it has been given off from sebaceous glands associated with hair follicles and epithelium

This tumour, presented, therefore, the most common and characteristic features of an ovarian dermoid. That it was ovarian was manifested by the presence of portions of the fallopian tube still attached, and of a small cystic graafian follicle imbedded in its walls. The interest of the case centres in the more unusual feature of the other ovary being similarly affected, though with multiple dermoids of smaller size. This, the left ovary, contained several small cysts, and one of these had its walls fairly well developed, there being a well marked cutis with small hairs growing therefrom. Two other rather larger cysts, the more important being ¾ inch in diameter, contained hair and fat, others again still smaller had merely fluid contents. In this specimen a fair amount of tissue still remained.

Dr. Adami called attention to the interesting series of cysts presented by these two ovaries, from minute cavities which apparently represented dilated graaffian follicles, up to the large typical dermoid cyst of the right ovary. Cases like this, tending to throw light upon the dispute as to the origin and production of ovarian dermoids, are of high value.

Dr. Alloway called attention to the interest attaching to this case, the presence of two dermoids in the same patient. The condition is relatively rare, Dolan in his account of 31 cases finding only 7 in which the condition affected both ovaries, that is to say, but a little over 20 per cent.

The history of the case was as follows: The patient, a resident in the United States, underwent examination in Philadelphia and again in New York two years ago, and there already the diagnosis was given of pelvic tumour. Accompanying her husband, who had come to Montreal on business, she here began to suffer severely. She consulted Dr. Thompson, who referred her to Dr. Alloway.

It was difficult to make out her condition without putting the patient under ether, but when this had been done the uterus was found to be anteverted, there was a tumour in the right pelvis, low down and impinging upon Douglas' pouch. This filled the whole upper third of the vaginal space and encroached somewhat upon the left but did not involve the left pelvis. The diagnosis was given of a pelvic tumour, probably containing fluid. The tumour was fixed but separate from the uterus and certainly not connected with that organ. The question was as to whether it was a dermoid or a cyst of the broad ligament. From the fact that the tumour had been diagnosed two years ago, and that only when these tumours become large and irritation and inflammation set in is any pain experienced and a physician summoned, makes it probable that the tumour in this case had been in existence for a long period growing slowly, and this led to a conclusion in favour of its dermoid nature.

At the operation numerous adhesions were encountered. The tumour was adherent to the posterior face of the broad ligament and to the wall of the pelvis on that side. It was also adherent to the wall of the rectum for a considerable distance. In such cases there is great danger of entering the rectum. To guard against this complication Dr. Thompson, who assisted at the operation, was asked to pass his fingers up the rectum and keep them there as a guide while the adhesions were separated. The operation had been performed four days previously and the patient had remained perfectly well, the temperature never exceeding 99.5°.

Dr. Alloway, continuing, said he had now given up silk ligatures in these cases. He finds Keeler, of New York, the most reliable source to procure catgut from; the size No. 0 ligature (simply the base fiddle string) is that used. It is, in his opinion, the best ligature extant to-day where there is a large amount of tissue to be brought together. He made an experiment some time ago with reference to the difference between catgut and silk. It was with reference to the reputed property catgut has of shrinking when moistened, whereas it is well known silk remains absolutely the same. He took a piece of sea-tangle tent, saturated it for some time in water, so that it was fairly expanded, then tied upon it above a silk ligature, and below one of catgut (No. 0). They were both tied equally tight. The tent was placed in a jar of sublimate solution. About one week afterwards he took it out and found that the catgut had cut a ridge into the tent, the silk remained perfectly the same. That was an absolute proof that the catgut does shrink. It is this power of shrinking under moisture that makes it superior to silk in operations of this kind. Tissue shrinks after operations, and in the case of silk this shrinking implies a loosening of the ligature, which is most commonly the cause of hemorrhage. Now, in the case of catgut this loosening does not occur, the ligature contracts with the tissue, and hemorrhage is a much more rare occurence where the latter is used.

Fibrinous Cystitis.—Dr. Adami exhibited specimens and microscopic preparations from a case of this condition, for which he was indebted to Dr. (Miss) Dougall. The casts had been passed upon three or four separate occasions of late, there was severe uterine disturbance, a history showing that the material had been passed coincidently with a menstrual period, and while these thin white fairly firm fibrinous membranes were evidently casts from some cavity, the question had arisen as to whether that cavity had been the uterus or the bladder. The history of uterine disturbance first attracted attention to the uterus, but in the first place this had been filled by a new growth, and in the second place examination of the fibrinous material both in fine sections and by teasing failed to reveal any uterine cells, or orifices of uterine glands. On the other hand flattened cells resembling bladder epithelium

were present. There had been cystitis for the previous fortnight with the passage of a relatively large amount of pus, and with the passage of the casts the condition of the urine improved, the number of pus cells diminished. The membranes and membranous shreds were passed after great pain and difficulty. The passage greatly eased the patient.

The condition in this case is rather at variance with the rare cases that have been described as exfoliative cystitis. Thirty or more such cases have been narrated, mostly in women, and in connection with labour or serious uterine troubles. In these, after great pelvic disturbance, the history given is that of the passage of a more or less complete cast of the interior of the bladder, and upon microscopical examination the cast is found to be composed of a large amount of fibrine, and incorporated in this what are evidently the inner layers of the bladder wall; in many of the cases, not only epithelial layers, but a certain amount of the muscle tissue of the bladder wall has thus become exfoliated.

In the case in question a singularly small amount of anything like the element of the mucous membrane of the bladder could be seen embedded in the fibrine, though there were numerous pus cells. The case is consequently described as one of 'Fibrinous cystitis' rather than 'exfoliative.' True exfoliative cystitis would seem in all cases to be due to a stoppage of the circulation in the vesical walls in consequence of more or less long continued closure of the vessels by pressure. It is in fact a necrosis of the inner layers of the bladder wall. In this case the condition has been neither so extreme, nor has it been of relatively sudden onset. That there has been obstruction of the pelvic veins is shown by the existence of phlegmasia alba of both lower extremities, and to the pressure of the large uterine tumour can be referred the state of the bladder which has rendered the setting up of cystitis a relatively easy matter, That same obstruction of the iliac veins which caused the phlegmasia would affect also the veins of the base of the bladder which pass to the internal iliacs, and Dr. Adami suggested that a very possible explanation of this curious condition was to be found in this obstruction, which leading to a congested condition of the vesical mucous membrane would lead to exudation, and this, when already there was inflammatory dis-

turbance in the organ, would tend to be of a fibrinous coagulable nature. But it would seem reasonable both in phlegmasia alba and in this condition of fibrinous cystitis to take into account also obstruction to the lymph flow of the parts.

Dr. Wm. Gardner, who had seen the patient with Dr. Dougall, gave details of the history of the case, which served to explain the occurrence of the cystitis. The woman from whom the specimen had been taken was suffering from a large myoma, a great part of which was already extruding. The pelvis was nearly filled by this myoma, and in the abdomen could be felt a large smooth mass. The condition of complete filling of the pelvis might account for the bladder troubles on the lines laid down by Dr. Adami. The woman had, in a sense, been in labour for several weeks, her womb trying to extrude the mass; the bladder naturally has been encroached upon and variously disturbed.

Bradycardia.—Dr. H. A. Lafleur reported a case of slow pulse, better called slow heart or bradycardia. The history of the case is as follows: A young man had an attack of acute rheumatism from which he made an apparently good recovery. Present condition seems fair, there being nothing which might disturb the circulatory equilibrium save some periodical attacks of diarrhea. These attacks cannot be traced to errors in diet or any local causes in the intestinal canal. The patient is a a student, tall and spare, chest long and narrow, bulging of the costal cartilages of the left side from the 10th to the 6th rib. Apex beat punctuate, in the sixth interspace in the nipple line. Short purring thrill felt on palpation, also slight diastolic shock. Cardiac dulness extends from the third rib downwards, laterally from the middle of the mediastinum to the nipple line. Auscultation reveals an occasional irregularity, but very seldom. First sound loud and snapping in quality, no trace of murmur; second sound accentuated and reduplicated, heard most loudly at the pulmonary cartilage, and transmitted quite distinctly beyond the area of cardiac dulness. No enlargement of the spleen, no enlargement of the liver, no œdema.

The first count of the pulse was 49, the second count gave from 50 to 54. The character of the pulse is that it is of small volume, but usually quite regular. Respirations were 16 to the minute; temperature not taken at the time; but subse-

quently it was found to be subnormal throughout most of the day. During a period of ten days, during which his temperature was taken three times daily, it only reached the normal point on three occasions. A tracing of a normal pulse with a fairly high tidal wave and a fairly high secondary wave was shown to compare with the tracing of the patient's pulse when it was beating at 54. It shows very typically that this tidal wave is short, (that the artery is not very actively filled, a common condition in obstructive disease of the mitral orifice); it shows besides a very long diastolic period, during which the ventricle is filling, and that is succeeded by the next systole. A tracing taken after exertion was also exhibited, the pulse here is more rapid, nearly 80; it has the same characters as the previous tracing with the exception that the second wave is very well marked, in fact it approaches the condition of dicrotism. When the heart is beating rapidly it cannot be so well filled on account of the obstruction at the mitral orifice.

This condition of bradycardia (slow heart) has been known for a long time; but until quite recently no attempt has been made to collect and tabulate a number of cases. At the meeting of the American Association of the Medical Sciences at Washington recently Prentiss collected over 100 cases in which the pulse beat below 60. The symptom of bradycardia may arise under any varied conditions of disease indeed; and although attempts have been lately made to classify them, notably in the large series of cases collected by Riegel. so far they have arrived at no very satisfactory results. The principal conditions under which one meets with it are (I) injuries to the central nervous system, in injuries of the head slow pulse is often a very conspicuous phenomena; (II) conditions associated with organic heart disease, fibroid disease, fatty degeneration, and much more rarely valvular disease; (III) toxic cases, poisoning by lead and arsenic, eating bad fish, etc.; (IV) anæmia and the cachectic conditions generally; (V) catarrhal jaundice; whether this is one of the toxic cases or not is not clear. The tendency is to group them under two heads (I) where there is organic heart disease; (II) where the nervous mechanism is at fault.

We must probably in some cases take into account the mechanical factor; where there is valvular disease preventing

the filling of the left ventricle the systole is retarded, and there is a prolonged diastolic pause. The prognosis in these cases is not good. It is said to be worse where there is actual organic disease of the heart. The great danger is in lowering the heart beat to an extreme degree, which is known to give rise to epileptiform attacks. An important point to make sure of in such cases is that the pulse and the heart beat are synchronous, as the pulse may be retarded through some obstruction or disease of the vessels, while the heart is normal. In this case this fact was repeatedly observed. As regards treatment, moderate degrees of bradycardia require no treatment. In organic disease, especially where there is failure of compensation, it may and commonly does require cardiac tonics. In other cases where the etiology is not clear, we may resort to symptomatic treatment, here nitro-glycerine seems to have succeeded best. In the face of convulsive paroxysm or fainting attacks the hypodermic use of stimulants seems to be the best.

Dr. Adami—It is a difficult thing here to determine whether one is dealing with a mere mechanical condition, or some condition other than mere stenosis. Sometimes extreme cases of stenosis occur with a normal pulse, and, in a case like this, he would seek the explanation in something else than the condition of the valves. In this very curious case we must have as a cause something further than the condition of the valves; some disturbance of the nerves of the heart; some kind of irritation. But, as Dr. Lafleur has said, the condition is an extremely obscure one. Investigators of cardiac phenomena have ascertained that under certain conditions the perfect sequence of the auricular and ventricular systole may be disturbed; the ventricle may beat at half the normal rate, while the auricle continues its normal rhythm. As an explanation of this, someone recently investigating among the lower animals finds that there is a distinct wave passing from auricle to ventricle, and that the difference in time between these acts is represented by the amount of resistance obstructing the transmission of this wave. So that the reason why the ventricular systole is not simultaneous with that of the auricle is because a certain length of time is required for the impulse to travel from the auricular to the ventricular muscles. Now

in a case of this kind it is conceivable that some kind of a disturbance of the transmitting medium may exist by which the impulse is delayed in its passage, the transmission may be slower than normal, and as a consequence the contractions of the ventricle slower than those of the auricle, hence the bradycardia.

Dr. LAFLEUR said, in reply to a question asked by Dr. Mills, that his instructions were to take the temperature in the morning on arising; that at mid-day (whether this was done before or after the mid-day meal he was unable to say); and lastly in the evening after his dinner.

With regard to Dr. Adami's remarks about the rarity of finding a subnormal temperature in connection with bradycardia, this case is by no means in that respect an isolated case. The great majority of the cases summarised by Prentiss also showed subnormal temperatures. With regard to etiology he did not wish in any way to insist upon the mechanical idea as an explanation, but in some cases it seems conceivable that such may be, not the sole cause, but one of the causes.

Dr. WESLEY MILLS said that the reason he had asked the question, relative to the conditions under which temperature, etc., were taken, was that there might be no misapprehension by Dr. Lafleur with regard to subnormal temperatures. With the help of some of his present and past students he had recently been conducting some investigations on that subject, and found that if one takes temperatures a good deal, and takes them very frequently during the day, and of a good many different people, he will be surprised how often he gets below 97°, and also the number of people who have temperatures in that region at certain hours in the day. We have what are apparently subnormal temperatures existing as the normal condition of certain individuals, and that these individuals are by no means rare.

As regards the pulse, nearly every year some one comes to him and reports, either in himself or some acquaintance, a condition of bradycardia, so that like subnormal temperatures slow pulse is not so rare a phenomena as it was once thought; and that further its presence in an individual is compatible and concomitant with apparently good health.

Dr. Lafleur seemed to think that in venturing his suggestion as to a possible explanation in his case he was announcing a theory in direct opposition to his (Dr. Mills) views. He is not opposed to mechanical explanations as contributing factors. A few years ago mechanical explanations were the only ones; and it was as "sole causes" that he opposed them. In the present case, no doubt, the mechanical explanation is a link in the etiological chain, but it is only a link; and it only extends a certain length. Why should we rest content with the mechanical part of the explanation? A heart is a living thing composed of cells, which, while life is present, are continually subjected to a never ending and ever changing metabolism, and it is preposterous to explain the functioning of such an organ by hydraulics alone. Hydraulics may do for the larger arteries, but they are quite inadequate in the face of the complexity of the heart.

Blood pressure has to be taken into account in explaining the heart beat, as he has distinctly noticed, that in the fishes' heart, blood pressure had a great influence in the character of the beat. He referred to a case of a London physician, in whom the nervous system bore an important and clear relation to the rapidity of the beat. This man when working, found his pulse sink as low as forty. Then, of course, we must distinguish between these physiological and the pathological cases, so that bradycardia may mean very much, and it may mean but very little. There is a point brought out by the researches of Doctors Adami and Roy relative to the nutrition of the heart through the coronory arteries, and to some newly discovered nerves which regulate this nutrition, which he (Dr. Mills) would like to hear discussed at some future time.

Dr. Lafleur in replying had only to say that he alluded to the mechanical explanation of the problem not as any explanation of the work and results of Dr. Adami or his confrere, but solely with reference to those cases that had been reported lately, and which had been already mentioned. With regard to normal bradycardia, it is a phenomenon so well known that he did not think it worth mentioning; for instance, there is the oft spoken of case of Napoleon Bonaparte, the slowness of whose pulse has been a matter of historical

comment. In relation to the effects of study on the pulse, from observations on his own pulse, he was inclined to think that close study has a certain effect in reducing the rapidity of the heart beat, and in his student days, at the trying times of approaching examinations. he especially noticed were potent factors in bringing about such a phenomenon.

Remarks on a Recent Epidemic of Typhoid Fever in Montreal. —Dr. Wyatt Johnson said that a good deal of attention has been attracted to the considerable number of cases of typhoid which have arisen, during the last three months, among the customers of a well known milk dealer here. This epidemic, if it might be called such, is not very extensive, not very serious as regards the number of deaths, although the proportion of mortality is quite up to the average in typhoid (3 in 20) ; so that the loss of life has not been sufficient to attract very great attention from the public, and it might pass unnoticed, were it not that it has brought out very strikingly some defects of our present sanitary system, and the modus operandi of our local health office. The more you investigate the case, the more it shows a lack of co-operation and a lack of intelligent investigation of these infectious diseases; and of course, what applies to this particular outbreak would apply to the outbreak of any other infectious disease, more especially to cholera. We are informed by the greatest authorities that there is a high probability of cholera this year becoming generally epidemic in America ; and it behooves us, therefore, to be on the alert and see that no precaution is neglected which might spare us from the plague. Now, I think we are all agreed that the sanitary methods have greatly changed within the past few years, and that owing to better methods of research (especially as to infectious diseases) some form of laboratorical investigation is absolutely indispensible in any well equipped modern health office. It is possible of course to find out a great deal by examinations as to localities, and the run of cases ; but, at the same time, there is a certain degree of certainty and permanence furnished by laboratory experiments not found in any other way. The condition of the city is simply this. They never attempt to look for the germs of any infectious disease, they never in-

vestigate as to the locality and sanitary surroundings from which the milk is obtained. The milk is analyzed it is true, but only with a view to detecting gross adulterations and inferior quality, they are not in a position to do any more.

He called the attention of the society to this matter, in the hope that some of its members who have more experience than himself in health matters, will take some steps to bring about a more satisfactory state of affairs. The need of adopting some plan by which, when a case of infectious disease occurs in the city, the health authorities shall properly and scientifically investigate the same, is obvious in the light of our present knowledge of the etiology of these affections. At the present time the health department is much hampered in its work by the conflicting interest of the "powers that be." The city is rich, and they can afford to pay for the detection of contagious diseases. There are three special points in connection with this matter: (I) The health of the city is largely dependant on the health of the surrounding municipalities, and on this account he thought the business had better be done by the provincial board, whose jurisdiction would extend to these places. (II) Practitioners do not report their cases of typhoid as promptly as they should, and some apparently do not report them at all. Now it is very evident that unless practitioners reform in this respect, the efforts of any board of health to be thorough, will be of but little avail. They have no other way to find out suspicious cases, except through the doctors.

(II) The necessity of something being done in this respect within a reasonable space of time. As on our prompt and efficient organization will depend our prospect of being able to guard against cholera, the early recognition of cases affords the only chance of suppressing small outbreaks, and to recognize the disease early we must resort to bacteriological examination. The results of laboratorical investigation, are, as a rule, more satisfactory in the case of cholera than that of typhoid, because it can be done so much more speedily. With practice, cholera cases can be positively diagonized in the course of from 24 to 36 hours, and of course that is a great advantage. The Provincial Board of Health have, of late years, been trying to get this matter on a proper basis. The late

Dr. R. L. MacDonnell, especially, tried to accomplish this purpurpose. It is thought that the society might join its voice to the demands of the Provincial Board of Health, passing resolutions, making suggestions that may seem proper, and in every possible way insisting upon the establishment of a laboratorical apartment at once for the bacteriological examination.

Dr. KIRKPATRICK stated that in the General Hospital in the winter of '90 and '91 an epidemic of typhoid occurred amongst the nurses and the employees. There were in all fourteen cases, five nurses, two cooks, a wardmaid, an orderly and a fireman. At the time of this outbreak the drainage system was found to be in remarkably good order, some slight defects found, however, were remedied. The milk supply was obtained from a man on the Longue Pointe road, who, it seems, was wont to purchase six or eight gallons daily to fill up the quantity required at the hospital, from a man on the same road, but nearer town. This latter milk was put into the kitchen for cooking purposes, a fact which was brought out by the subsequent investigation. An official examination was made of both places. The first place, that of the man who had the contract, was pronounced everything that could be desired, and no suspicion could be attached to it as the source of infection. Such, however, was not the case with the second place, that of the man who supplied the shortage in the required quantity. He was found to keep a dirty stable, cows in poor condition, cans under the same roof as the stable, and it was the custom to set them down on the dirty floor where the dogs were wont to run and gambol amongst them. The well was situated about 60 feet from the barn, and there was a strong suspicion that he obtained a good deal of his water from the river. Everything in the place contributed to fasten suspicion on this man's premises as the source of infection, and this suspicion was further confirmed later on in October by receiving a patient with typhoid who had been taking milk from this same individual. Yet owing to the imperfections in our methods of investigation we could do no more than suspect the real state of affairs. No positive proof could be adduced by the department whereby the guilt might be fastened on this man's place, and effort made to have him change his method of carrying on business.

Dr. J. C. Cameron related a similar experience the profession had 15 or 16 years ago, and how futile were their efforts to get passed any remedial legislation. Although they succeeded in tracing some 30 cases to one milk supply, upon applying to the authorities to interfere in the matter, they were plainly told they were dealing with a large industry, one that involved a good deal of money, and unless there was a peremptory public demand behind them, one which was too powerful for them to ignore, they could not as public servants take on themselves to disturb it.

Now, it is possible for us to do more, we have now a provincial board which we had not then, but as regards the outlying municipalities, the city health authorities might easily do a great deal. They might make it necessary for country people to obtain a license before selling milk for city use, and only grant licenses to those who kept their quarters in good sanitary condition. The city can exclude milk from places that will not submit to periodical inspection, and by these and similar measures they might easily obtain a fair control over the city milk supply.

But we must not expect that we are going to obtain such results by the mere passing of a resolution, we have to fight against a large and influential industry, and to do so successfully, we must have some system in our mode of attack. We must be prepared to go before the public, and work them up to a good, wholesome sound feeling in this matter, and, especially with the cholera scare as a lever, we may get them to decide whether their lives or the vested interests of the milkmen are of the most importance. (I) Insist upon the refusal of licenses to all milkmen who are not ready and willing at all times to have their places inspected. (II) To have the provincial authorities take the matter up and appoint a specialist for the bacteriological examination of milk, etc., so as to ensure the early detection of contagious disease. This, roughly speaking, is the programme we should set before ourselves to obtain, and it would be well to appoint a special committee to undertake the executive of the steps required in this direction.

Dr. F. W. Campbell agreed with Dr. Cameron as to the difficulty of getting our legislators to move in such matters, unless a strong public opinion is first roused in that direction.

At the epidemic referred to by Dr Cameron our investigation was very satisfactory, we discovered the source of the epidemic. He saw a difficulty in approaching the council on this matter, for he did not think we would get them to attach another hand to the Health Committee. Our only hope lies in the Provincial Board of Health. At the present time this is a very intelligent board.

The President then nominated the following committee to draw up resolutions embodying the views of the society: Drs. J. C. Cameron, F. W. Campbell, J. G. Adami, Wesley Mills and D. McEachran.

Selections.

Long (J. W) on Albuminuria: Its Relations to Surgical Operations.—In a paper recently published on this subject Dr. Long reaches the following conclusions:

1. That healthy kidneys are almost never injured by ether or chloroform.

2. That when, the kidneys being healthy, renal disturbances from the use of an anæsthetic do occur, they are due rather to prolonged narcosis, exposure of the patient, or perhaps to the combined influences of the operation and the anæsthetic.

3. That a mild degree of albuminuria or nephritis, especially if recent, is not a contra-indication to the use of chloroform or ether.

4. That even in the presence of advanced and extensive renal changes an anæsthetic may be employed, provided the additional risk is explained to the patient or family.

5. That of the two anæsthetics usually employed, it is still a mooted question, except in obstetrical operations, as to which is the safer, so far as the kidneys are concerned.

6. That while it is by no means the rule, profound functional disturbances, and even organic lesions may be induced by an operation, apart from the influence of the anæsthetic.

7. That such renal changes are due to reflex action, or sepsis, or both.

8. That operations in certain regions, notably the abdomen,

the genito-urinary tract, the rectum, and the mouth, are especially liable to produce kidney complications.

9. That a healthy condition of the kidney minimizes, but does not entirely do away with, the dangers referred to.

10. That albuminuria is indicative of renal lesions, and should be regarded with distrust, but is not a positive contra-indication to an operation.

11. That paradoxical as it may seem, an operation will sometimes relieve an albuminaria due to acute affections.

12. That no surgeon is justified in undertaking an operation without first knowing the state of his patient's kidney's.—*New York Med. Exam.*, Sept., 1892.

Bond (R. I.) on Chewing-Gum in Fevers.—The salivary glands play quite an important part in continued fevers, yet they are not considered in the treatment of the case. One of the first and most important restrictions in the patient's dietary is to drop all solid food from the list at the physician's first request, and just then the salivary glands begin to lapse into a torpid condition which very often results in an inflammation and, finally, suppuration, and that disagreeable dryness to the tongue and fauces so uncomfortable to the patient. For the relief of this trouble I have found nothing of so much importance as some nice form of aromatic chewing-gum, which relieves the thirst and dry mouth, improves the appetite and digestion, and restrains nausea, if any. Hence some of the most disagreeable accompaniments of the disease are mitigated. I believe also that it materially aids the absorption of the medicine when the alimentary tract is so impaired by the incessant fever.

I do not claim originality in this treatment, although I have never found any reference to anything of the kind. However, it may have been regarded as too simple to need mention; still it is, in my estimation, quite important in any continued fever.—*N. Y. Med. Rec.*, Nov. 12, 1892.

Grimsdale (T. B.) on Congenital Absence of the Peritoneum.—Grimsdale recently exhibited an interesting case of this nature before the Liverpool Medical Society. The patient was a young woman, married about eighteen months, no pregnancy, menses practically

normal. From her marriage she had suffered more or less pain in the left iliac region, and a few weeks before coming under observation she fell on the stairs, striking the abdomen. Acute pain was felt at the time, but notwithstanding this she went out with her husband. Whilst out she was suddenly seized with such pain that she had to be taken home and put to bed. A short time after this she was admitted into the Hospital for Women under Dr. Grimsdale. From the time of her admission there was no pyrexia, nor was there any history of fever, but a cystic swelling as large as a fœtal head was felt in the left iliac region. The patient had also slight exophthalmos and a small goitre. The abdomen was eventually opened, but no trace of peritoneum could be discovered. The intestines were, as far as could be observed, universally adherent, and had to be separated in the direction of the cyst. This was finally reached, and about a pint of clear serous fluid evacuated. One or two smaller collections were also emptied, and all washed out and drained. The patient made an uninterrupted recovery. He believed the case to be one of congenital absence of general peritoneum, similar to some that had been described.—*Eng. Med. Press*, Nov. 16, 1892.

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AUTOPSIES AT CORONERS' INQUESTS.

We have repeatedly called attention to the defective nature of the medical evidence given at inquests in connection with deaths supposed to be due to other than natural causes.

In particular, the tendency under the present law to hold an autopsy in only one out of every 10 or 20 cases investigated by the coroner is highly dangerous to the safety of the community. With the appointment of a new coroner in Montreal, it was understood to be the intention of the Provincial Government to place the matter upon a satisfactory footing and not only to allow the additional information furnished by autopsies to be availed of in every case where the circumstances demanded it, but further by appointing specially qualified experts to conduct these autopsies to ensure their being properly done in each instance.

We regret to find that this arrangement is far from being carried out at present. Autopsies are as rare as inquests are common, the reason alleged being that the expense of the additional fee for opening the body is too great.

The Quebec statutes provide a fee of five dollars for an external examination, and one of ten dollars for a complete autopsy. The latter sum is supposed, officially, to form such a tempting bait to medical witnesses that great care has to be taken to prevent them from insisting up on autopsies in too many cases.

Now the external examination of a body as usually performed in Montreal, is a matter requiring from five to ten minutes of the physician's time. No written report is required by law, and any guess, however wild, at the cause of death in-

variably satisfies the average coroner's jury. For actual time taken up by the technical work the physician is thus paid at about the rate of fifty cents to one dollar per minute in external examinations.

On the other hand, to make a complete autopsy requires usually, a couple of hours, at least, and a report has to be drawn up. When two hours work is performed for $10 payment for time consumed in technical work, is only eight and one third cents per minute. It is clear that to a fairly busy man the rates of pay for the external examination is more profitable than that for autopsies and the medical witnesses appear to have very little financial inducements to perform autopsies in preference to external examinations.

The real facts are that the external examination is in most cases merely a formula to cover clinical evidence given by physicians who have attended the case during life and the facts adduced are rarely such as could be made out by inspection of the body.

This system of paying for one thing and receiving another is most irregular. Clinical evidence should be paid for as such, and not classed an external examination.

Two cases have recently come before the public in Montreal showing the absurdity of coroners' verdicts being given without the additional security of making an autopsy. In one instance an old man found dead in bed, was publicly declared by the jury to have "died from drink," when the cause of death was found (upon performing a private autopsy) to be pneumonia. In the other a verdict of manslaughter was found and the suspected person indicted and placed upon his trial without the cause of death being established by autopsy, although the sittings of the coroner's jury covered a period of four days and two adjournments were made.

Fortunately the medical witness examined obtained permission of the friends to open the body after the inquest was closed, and upon the result of the autopsy being explained at the trial, the judge felt justified in dismissing the case without calling for the defence, and stating that had the autopsy been ordered in the first place the case would never have come to trial at all. His comments upon the negligence of the jury were short but pungent. We are curious to learn what will

be the next vagaries of the "intelligent jurors." The mere retirement of Coroner Jones does not seem to have been all that was necessary to perfect the coroner system in Montreal.

It is not, however, enough that autopsies be made—they must be made properly. Following the two cases just mentioned, came the Clarenceville tragedy at Lacolle, P. Q., when three recently killed bodies were discovered in a burning house. Marks of violence galore were present in the shape of cut throats, and bullet wounds. The autopsies were made by two local medical men under the direction of the coroner, himself a medical man. With this imposing array of medical talent one is pained to find that, after the conclusion of the autopsies *the undertaker* in washing up the bodies found a bullet wound which had been overlooked by the doctors and found the bullet! What confidence can be placed in an autopsy so carelessly made that a perforating wound of the chest is allowed to pass unobserved?

This shows the imperative necessity of some detailed official instructions for the guidance of those performing medico-legal autopsies. Some definite schedule should be followed just as in the case of life insurance examinations. Had the physicians been compelled to state categorically in giving their report that the clothing had all been removed and every part of the body examined, we doubt if the undertaker would have had much left him to discover.

Supposing through the exertions of the detectives, someone is brought to trial, will this autopsy, prove a source of weakness or of strength in the case, In too many cases where convictions have, (we hope rightly) been brought about, it must be admitted that this happens rather in spite of the weakness of the medical testimony than on account of its clearness and accuracy.

PRIVATE HOSPITALS, A CORRECTION.

The editorial in our February issue against the advertising, by doctors, of their private hospitals has called forth an able article on these institutions by the *Canada Medical Record*, in which, however, the point of our article is entirely overlooked. The article in question was directed solely and entirely against the advertising. Having pointed out the mistake we hope the Editor will direct the thunder against the evil complained of.

REPORT OF THE LEPROSY COMMISSION.

This commission, which was composed of three commissioners appointed by the College of Physicians, the College of Surgeons and the Executive Committee of the National Leprosy Fund and two members of the Indian Medical Service, have completed their work and issued their report. The English members of the commission were Drs. Beaven Rake, Buckmaster and Mr. A. A. Kanthack, and associated with them were Surgeon-Majors A. Barclay and S. J. Thompson, of the Bengal Medical Service.

The commission remained in India for about twelve months, making the most careful enquiries and availing themselves of all opportunities of studying the disease.

An abstract of the report has been published in the *British Medical Journal*, and from it we take the following conclusions arrived at by the commission.

It is shown by the figures of the census that, as the disease attacks all tracts of land more or less, no generalizations can be arrived at regarding the geographical distribution.

The leper population has remained stationary, there being no increase in the relative number of cases, but rather the reverse.

Whenever cholera is endemic, leprosy is prevalent, hence, as there is no causal connection between the two, there must be present in these localities some permanent conditions predisposing to leprosy. There is also evidence that leprosy is more common in the poverty-stricken districts.

The natives are most prone to the disease, and the unmixed European the least.

The statement of the anti-vaccinationists that leprosy has been spread by means of vaccination is disproved by the fact that during the last thirty years leprosy has not increased, also that in the bacterioscopic examination of vaccine lymph, in no case were leprosy bacilli undoubtedly found, although, in six out of ninety-three observations, suspicious rods, etc., were seen.

Regarding hereditary transmission the conclusion arrived at is: "That leprosy in India cannot be considered a hereditary disease, and they would even venture to say that the evi-

dence which exists is hardly sufficient to establish an inherited specific predisposition to the disease by the offspring of leprous parents to any appreciable degree." They also produce strong arguments against any direct hereditary predisposition.

Although leprosy must be classed among the contagious diseases, the risk of contagion is so small that it may practically be disregarded for, in no case could contagion, or the possibility of it, be demonstrated free from objection, the disease does not spread sufficiently among the members of a family, or from husband to wife, and leper communities have never acted as centres of contagion.

Defective hygiene, either personal or general, is a probable predisposing cause, although it does not originate leprosy.

The bacilli have never been found in fish, and many cases of the disease have occurred among certain castes, the members of which are forbidden to eat fish, so this theory of the causation is entirely rejected.

The question of the influence of salt on the spread of leprosy is discussed, but as a few pence will purchase a year's supply of this necessity the price of it cannot have much effect on the spread of the disease, especially as the increase or decrease in the price of salt by no means tallies with the geographical distribution of the increase or decrease of the disease.

They are of the opinion that leprosy is not a form of syphilis as lepers may acquire syphilis subsequently to acquiring the leprosy.

There is no evidence to warrant a belief in a connection between water, either for bathing or drinking, and the spread of leprosy.

The most valuable medicinal agents so far employed are arsenic and chaulmoogra oil. Surgical treatment may be applied as to any other patient.

Tuberculin is of no therapeutic value, and is not altogether free from danger.

THE ONTARIO MEDICAL COUNCIL.

The dispute which has been going on for some time regarding representation of the profession on the council has been settled at last. The *Canada Lancet* sums up the changes in

the Medical Act as follows: (1) The election of five additional territorial representatives, making the number seventeen instead of twelve as formerly. (2) The members are to hold office for four years instead of five. (3) The taxing of the profession is to be relegated entirely to the territorial representatives. (4) The next election is to take place in 1894.

Obituary.

—A. Cantani, of Naples, died May 1st, aged 56 years.

—Dr. Marcus Beck, Professor of Surgery at University College, London, died from diabetic coma on May 21st.

—J· S. Schnitzler, M.D., Professor of Diseases of the Throat and Chest at the Polyclinic of Vienna died on May 2nd of erysipelas.

Personal.

—The President has appointed Dr. Geo. M. Sternberg to be Surgeon-General of the United States Army.

—Dr. A. M. Cowie (McGill, '87) received his certificate from the California State Board of Examiners at their meeting held March 7th, 1893, and has settled in San Diego.

Medical Items.

—The number of successful candidates at the last matriculation examination of the University of London was 527.

—Where you are in doubt as to the diagnosis, examine the urine; and where you think you know, examine the urine.

—According to English law, if a house is let, furnished, it is implied that it is in sanitary condition, and the tenant may obtain damages for illness resulting from the unsanitary state of the dwelling. If it is let unfurnished, then, except under certain circumstances, the owner is not supposed to tacitly guarantee its fitness for habitation.

—Several druggists in the Eastern Townships were recently fined for illegal selling of liquor, on account of dispensing an elixir patented by a physician, and containing gin, brandy or whiskey as the principal ingredient.

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Original Communications.

THE INTERNAL TREATMENT OF LUPUS ERYTHEMATOSUS WITH PHOSPHORUS.*

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Lupus erythematosus is recognized as one of the most rebellious of the diseases of the skin, and any substantial addition to its therapeutics must be as welcome to others as it has been to the writer.

Having employed the treatment about to be recommended for about ten years, and in perhaps fifty cases, I take pleasure in calling attention to the same, feeling confident that, if rightly used, others will find the same excellent results which I have obtained in a considerable proportion of the cases.

Before detailing the method of treatment advocated, I will very briefly present a table of the cases which have come under my observation in private practice, and in the clinics of the New York Hospital, the New York Skin and Cancer Hospital, and the clinic of the Post-Graduate Medical School. The records of the cases treated in earlier clinics are not now readily accessible, but would considerably increase the number of the cases.

The number of cases here collected amounts to 97, seen in a total of 20,798 cases of miscellaneous diseases of the skin; in

* Read before the Canadian Medical Association, September 21, 1892.

the same number of general cases were seen 73 cases of lupus vulgaris, showing that in New York the affection under consideration is more common than true lupus, with which it is associated in name, without having any other relationship. I do not recall having ever seen the two associated in the same individual, or having seen the one transformed into the other; in specimens of lupus erythematosus which I have had examined by competent authority, the bacillus of lupus has never been found. In one very severe case of lupus erythematosus, which has been under my observation and care for many years, injections of tuberculin were tried faithfully for a long period, in the hands of a colleague, not only with no benefit, but with ultimate injury.

The following table presents the ages and sex of the cases referred to:

TABLE I.—LUPUS ERYTHEMATOSUS.

Ages of Patients.	Private practice. 7573 cases.			Public practice. 13,225 cases.			Grand total.
	Male.	Female	Total.	Male.	Female	Total.	
1 to 10 years . . .	0	0	0	0	0	0	0
10 " 20 " . . .	1	2	3	1	5	6	9
20 " 30 " . . .	4	11	15	3	18	21	36
30 " 40 " . . .	3	7	10	6	4	10	20
40 " 50 " . . .	3	7	10	2	7	9	19
50 " 60 " . . .	0	7	7	2	1	3	10
Over 60 " . . .	0	1	1	2	0	2	3
Total	11	35	46	16	35	51	97

It is here seen that lupus erythematosus is very much more common among females than among males, the former comprising over 72 per cent. of the whole; that it did not occur once under the age of ten years; and that over one-third of the cases were observed between the ages of twenty and thirty years.

It may be interesting to present in connection with this the data relating to the cases of lupus vulgaris which occurred in

the same number of miscellaneous skin cases, and which are exhibited in the following table:

TABLE II.—LUPUS VULGARIS.

Ages of patients.	Private practice. 7573 cases.			Public practice. 13,225 cases.			Grand total.
	Male.	Female	Total.	Male.	Female	Total.	
1 to 10 years . . .	0	1	1	0	1	1	2
10 " 20 " . . .	3	2	5	2	8	10	15
20 " 30 " . . .	2	4	6	3	9	12	18
30 " 40 " . . .	3	4	7	3	3	6	13
40 " 50 " . . .	1	7	8	1	3	4	12
50 " 60 " . . .	2	2	4	0	4	4	8
Over 60 " . . .	1	2	3	2	0	2	5
Total	12	22	34	11	28	39	73

It is unnecessary here to enter at all into the subject of the nature of the lupus erythematosus, of which we know so little, or to attempt any consideration of its clinical features, which have been so well presented by many writers, as well as its microscopic anatomy. The cases here analyzed represented various phases and degrees of the eruption, from a relatively small patch of recent origin, to a very extensive and severe eruption of many years' duration. It has never, however, fallen to my lot to see any of the cases of very acute, rapidly developing, multiple, discoid, erythematous lupus, terminating fatally, such as have been described, especially by Kaposi.

One of the most acute and severe cases which I have ever met with has recently been under my care, in a man aged 43, in whom within six months a large share of the face was covered with patches of the eruption, developing from small points; this case yielded well to the treatment to be described, with no local remedies, so that within two months there were but few traces of the eruption; although some small patches have still resisted for considerable length of time. In another very acute case, a girl aged 20, almost the entire face became covered in a

very short time; and in this case, also, the disease was controlled almost at once in the same manner; in two or three months all the active process had disappeared, leaving only depressed and slightly reddened scars: the girl has remained as a servant in the Skin and Cancer Hospital, and continues quite free from the eruption now for nearly two years, though the face shows still the superficial scars left by the former lesions.

In a number of chronic cases, where the eruption had existed for a long period, even some years, the improvement was also almost as rapid under a free use of the phosphorus; so that, in the light of other experience, and in the sudden checking of the eruption and its rapid subsidence in these acute cases, and the increase of the eruption once or twice when the remedy was stopped, I am quite satisfied that the results were obtained from the treatment, and had not to do with the spontaneous improvement which we sometimes see occurring in this disease.

The longest period during which I have watched a case is in that of a young woman now under treatment at the age of 25 years. She first came under my care some thirteen years ago, when 12 years of age; the eruption had then been of about two years' duration and affected the nose, ears and fingers. The disease continued and increased under various forms of treatment, until the phosphorus was used, about ten years ago, when it yielded, and within some months there were only scars left. She then ceased treatment for a while and there was some relapse, which again disappeared under the same treatment. After this she remained well for a number of years, until, being married at 19 years of age, the eruption reappeared after the birth of her first child, within a year after marriage. She then fell into other hands and received a variety of treatment with constant increase of the eruption up to the time when she again came under my care some months since; this was the patient already referred to as having received the treatment with tuberculin.

When I again took charge of her there was a very large amount of eruption on the face, ears and scalp, with many scars left by former lesions and the severe local measures which had

been adopted. There were both chronic patches and those of more acute, somewhat inflammatory character, attended with considerable heat and burning. During the past few months she has been under full doses of the phosphorus, with again happy effects. There has been almost immediate cessation of all acute symptoms, and many of the lesions have almost disappeared, there having been no local applications made. Many of the other lesions have also shrunken, and some have completely cicatrized. I have repeatedly shown and lectured upon this patient, and the marked and steady improvement has been strongly commented upon by the physicians attending the Post-Graduate Medical School.

It is not wise to attempt to present data or statistics in regard to the cure of such an eruption by any special line of treatment; we all know how unreliable such statements may be in a special and consultation practice, and I will not attempt it on the present occasion I may state, however, that in a very considerable number of cases I have seen the lesions of lupus erythematosus subside and entirely disappear under the treatment proposed, and in a number of instances I have had the patients under observation, in one way or another, for a length of time after treatment.

In reference now to the particular plan of treatment recommended, I wish first to state that I do not by any means claim priority in the use of phosphorus in lupus erythematosus, for I believe it has been mentioned in some of the older books, and I do not know where I first found the suggestion which led to its employment.

But I have searched in vain in the more recent works for any mention of its use, except such as I have myself occasionally thrown out from time to time; these latter, however, do not appear to have attracted attention—indeed, this treatment was mentioned only casually in connection with other subjects. In the light of my experience, therefore, I wish now to bring forward this remedy as a most valuable addition to our internal treatment of this disease, for the therapeutics of lupus erythematosus is certainly far from satisfactory, as may be judged

from the meagre presentation of the subject in our recent text-books.

Some considerable care is necessary in employing phosphorus internally, but if it is properly administered and due precautions are exercised, I believe it to be perfectly safe; some of my patients have taken it continuously for months, not only without harm, but in some instances with marked improvement to their general health.

While it is the phosphorus that is of service in the disease under consideration, there is a great difference, both in regard to its immediate and later effects, as to the form and method in which it is administered. In my earlier trials with the remedy I gave it, as is often recommended, in oily solutions, and in the form of pills; but with these I had on several occasions such severe digestive and liver disturbances, and occasionally accompanied with violent jaundice, that I was led to adopt wholly the form of administration about to be recommended, and to exercise other precautions, so that now for a number of years past I have had no single instance of disturbance from the remedy which could cause uneasiness.

The form in which I now administer the phosphorus is in a solution, which was first suggested, I believe, by Dr. Ashburton Thompson, primarily for employment in nervous conditions. I give here the formula which I have long used, and which is known in my clinics as "Thompson's solution of phosphorus":

℞.—Phosphorus . . . . gr. vj.
Absolute alcohol . . . ℥xxx.

To be dissolved with the aid of heat and agitation, and then mixed, while still warm, with the following mixture, also warmed:

Glycerin . . . . . ℥ixss.
Alcohol . . . . . ℥jss.
Essence peppermint . . . ℥ss.

Each drachm contains $\frac{1}{20}$ grain of phosphorus.

In most cases I begin with fifteen drops, in water, three times daily after meals. It is well to have the water added quickly after the liquid has been dropped out in an empty glass, and

the dose should be taken at once, as I believe that the presence of water changes somewhat the taste of the free phosphorus; if exposed to the air the phosphorus oxidizes, and the less efficient phosphoric acid is formed. Commonly the dose may be increased by one or two drops daily until thirty are taken three times daily; the dose is then increased more slowly, one drop every other day, until forty or forty-five are taken each time, and in rare cases, if it agrees, even a larger amount may be given; but seldom have I given as much as sixty drops to a dose. As the disease yields the dosage is still continued, if well borne, even until the lesions have quite disappeared and superficial cicatrization has taken place.

It is well to watch patients very carefully while taking this remedy, noting the condition of the tongue and of the digestion, and with the least disturbance the drops should be stopped for the time, and proper measures instituted to restore the deranged functions. if there is any constipation or signs of liver disturbance I always give a mild dose of blue-mass, colocynth, and ipecac, repeated on the second night after; if then the bowel discharge has been free and the tongue is not coated the drops may be resumed at a smaller dose than when stopped, and the amount again increased, yet more slowly and cautiously.

In many instances the greatest benefit will result from the administration of full doses of nitric acid after each meal, well diluted, in the interval of cessation of the drops, say for a week, when they may be returned to as before. This course of nitric acid may be repeated from time to time with advantage.

When there is much heat and flushing in the eruption, it will often be better to give, in place of the nitric acid, the acetate of potassium, in doses of fifteen grains, with the fluid extract of rumex, and nux vomica, well diluted, half an hour before meals, as in acne rosacea. This I have sometimes seen to have a most beneficial effect upon the eruption, and when the phosphorus has seemed to have lost its effect on the lesions, I have observed it to take hold of them strongly after a course of a week or so of the acetate and rumex mixture.

In many instances, however, there has been little or no diffi-

culty in taking the phosphorus, when the dose was not pushed too actively, and some patients have required little or no assistance from the measures mentioned. But I must insist that the remedy here advocated is to be given most carefully, and claim that, when rightly administered, it is harmless and of great benefit to the disease in question.

Knowing so little as we do in regard to the real nature and causation of lupus erythematosus, I cannot attempt any definite explanation of the mode of action of the remedy in this disease. But in my judgment, arguing from the effects of phosphorus in certain nervous conditions, I think we must look for its action through the agency of the nervous system. There are many elements, which I cannot consider now, which point to a probability that the eruption is of angio-neurotic origin, and these are confirmed, in a measure, by the results obtained from phosphorus employed in the method above described.

I have not attempted any consideration of the local treatment of lupus erythematosus, as I wished to present only the single point which has been emphasized in this paper. In many of my cases I have found decided results from the methods commonly described; but their frequent failure to check the spread of the disease has led me to persist in the use of the internal remedy here advocated, which will, I trust, meet with favour also in the hands of my *confrères*.

Discussion.

Dr. Strange.—It is almost too good to be true. We have all been looking out for some treatment of this disease. Anyone who is familiar with skin diseases knows that this is the most intractable that we are acquainted with. The trouble is to prevent a recurrence of the disease. I shall be very glad to try this treatment in the hospital. I cannot see why, in the practice of so many years, there has not been more progress made. I think the proposed treatment will be widely tried, and in a year or two we should be in a position to give an opinion on it.

Dr. Graham.—With regard to phosphorus itself, I understand Dr. Bulkley to say that he attributes the value of phos-

phorus to its action on the nervous system. If so, would it not be as well to use the phosphate of zinc? Speaking as a practitioner, I should find it difficult to get a patient to put a few drops into a glass, dash in the water, and drink it immediately. I should give phosphate of zinc pills with the greatest confidence, and ask the patient to see me at stated intervals.

Dr. J. E. GRAHAM.—I have seen phosphorus with carbolic acid applied externally; I have seen that tried two or three times. In one case I tried phosphorus. I have not seen the patient since, but I have been told that she is considerably improved. I have usually given phosphorus in the form of phosphate of zinc, or in capsules, or dissolved in oil. I do not think I have ever found them disagree with the stomach. It is generally conceded that phosphorus given in that way is of very much more benefit than given in any other form—that is, either given in solution with oil or alcohol, or something of that kind. I have certainly found it a very great benefit indeed. I am very much pleased to hear the paper of Dr. Bulkley's, and I shall persevere in the treatment with a good deal more confidence than I have done previously, and I hope the result will be good.

Dr. WRIGHT.—Is it necessary to give phosphorus in the case of lupus erythematosus after meals? Dr. Bulkley emphasized this somewhat. I ask the question because it seems to me that possibly the administration of the phosphorus at that time may have something to do with the changes he has indicated. Not long ago a patient of mine, who had been under treatment in New York, came here, and I received a letter from her physician strongly recommending a certain preparation of phosphorus, very much the same as Dr. Thompson's, and he recommended its administration with hot water half an hour before meals. It struck me that that was a good way to take it, and that it would be quickly absorbed in that way, whereas taking it after meals it might change to phosphoric acid, and in that way its therapeutic effect be altered.

Dr. BULKLEY.—Dr. Strange's remark that it is almost too good to be true has struck me. I did not read all my paper

giving cases. I do not say it cures all cases, but I have found it so effective in my own practice that I think I have evidence now to show that it is of some value. Do not be afraid of it. I have never seen complication from the use of the solution. I did earlier with the oil and pills, and had several cases of jaundice. Phosphate of zinc might be useful. I have given four drops before meals. I do not notice any difference in taking it before or after meals.

SIX MONTHS' MEDICAL EVIDENCE IN THE CORONER'S COURT OF MONTREAL

(January to June, 1893).*

By Wyatt Johnston, M.D., Montreal. and George Villeneuve, M.D., Montreal.

At the commencement of the present year, when, on account of his long experience in criminal matters, our present energetic and capable coroner was appointed, it was intended that his duties were to be purely judicial, and that medical questions in connection with coroners' inquests were to be investigated by a physician specially appointed for that purpose, whose duties should correspond with those of the "coroners' physicians" or "medico-legal experts" of other countries.

These duties having been entrusted to one of the writers since the beginning of the year, or, in case of absence, to the other, we think it well now to review the medical evidence given before the Coroner's Court during the past six months under the new system.†

We wish first to express our thanks to the members of this Society, and to the medical profession in general, for the cordial support they have given, from first to last, in effecting some much needed changes in connection with Coroners' Court inquests. We also wish to thank the members of the Provincial Government for the great interest they have taken in the matter and the uniform courtesy with which all suggestions concerning it have been received.

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* Read before the Montreal Medico-Chirurgical Society, June 23, 1893.

† As the present paper is chiefly of a general nature it seemed preferable to make our communication a joint one, although most of the evidence has hitherto been given by one of us (Dr. Johnston).

A beginning has already been made in the direction of placing matters concerning medical testomony at inquests on a different footing, but owing to some technical difficulties in arranging the duties of this new medico-legal office, we have only been consulted in a relatively small proportion of the total inquests. For this reason a communication limited to our own personal observations would not be fairly representative of the evidence in the Coroner's Court, so we have, in addition, supplemented our own observations by studying the testimony given by medical witnesses in cases where we were not consulted. All internal post-mortem examinations ordered by the coroner or jury were made by the expert, but as autopsies are only called for in a small number of cases, many of the inspections of the body, which constitute the majority of the examinations, were made by other medical men. A radical change has not yet been found feasible under the present law, though I may state that the present coroner is strongly of opinion that autopsies should be performed in every case where it is necessary to hold an inquest. Our information as to medical testimony given at inquests where we were not present has been obtained from the records of inquests deposited at the Crown and Peace Office.* These documents are at all times accessible to any one who may wish to see them, and therefore the information obtained from them is not of a privileged or secret nature.

During the six months ending June 30th, 1893, 202 inquests have been held in the Montreal district, out of which we have been called to give testimony in 70. During the same period 26 autopsies have been ordered, all of which have been entrusted to us.† In the remaining inquests, 130 in number, the examinations were made by 68 different medical men. Except in specially important cases the expert does not examine the bodies of those who have been seen during life by other medical men.

It seemed expedient in the present paper to treat the medi-

* We have to thank Mr. C. Doucet, Clerk of the Crown and Peace Office, for kindly aiding us in consulting the records.

† We take this opportunity of thanking Coroner McMahon for the uniform courtesy and consideration which he has shown us in our capacity of experts, which has made our work under him specially agreeable.

cal evidence in a general statistical way only, reserving for future and more scientific papers the details of the cases.

Comparing the work of the Coroner's Court with that of two years ago, in 1890 and 1891, we find that then about 240 inquests were annually held in the district of Montreal, and in these 12 autopsies were made, so that at present the number of inquests is nearly twice as great, and that of autopsies is about four times as great as under the old system.

Taking the population of the district of Montreal as 300,000 (which is well below the mark), we find that 0.8 inquests were then held per year for every 1,000 inhabitants. In Philadelphia 2 per 1,000 are held annually, and in Liverpool 1.7 public inquests per 1,000, and as many more coroner's private inquiries, so that the number of inquests in Montreal is relatively small as compared with other large cities, the frequency for the past half year being at the rate of 1.32 per annum.

Here, as elsewhere, of all the cases brought to the notice of the coroner, only a few finally prove to be medico legal. In Liverpool, of 900 inquests held in 1892, only 4 verdicts of murder and 8 of manslaughter were found, or in other words, less than 1.3 per cent. of the suspicious deaths were found to be due to criminal violence or negligence.* In South-west London, out of 20,000 inquests during 20 years, there were 8 verdicts of murder, 14 of manslaughter, and 59 of infanticide, or 0.4 per cent. of criminality.†

That so much material must be sifted in order to detect criminal cases affords an explanation of the fact that we have no startling or sensational tragedies to report to you to-night. Possibly if more autopsies had been held more crime would have been detected, and certainly in two cases the circumstances seemed sufficiently suspicious to warrant us, as medical men, in suspecting foul play, although as the juries did not think it necessary to order autopsies in either of them no positive statement can be made on this point.

In the Province of Quebec, as we know, except in exceptional cases, it is the practice only to hold autopsies with the consent

* F. W. Lowndes' evidence before committee on death certification, 1893.—*British Med. Journal*, May 6, 1893, p. 962. † Braxton Hicks— *i*

of a majority of the jury. Why a juryman should be supposed to know better than the coroner or the medical witness where an autopsy is needed is a matter which we cannot pretend to explain, but, such being the law, there is at present apparently no remedy but patience.

In Montreal to hold 240 inquests annually meant that 2,880 jurymen must be empanelled each year to consider the evidence. Were the coroner permitted to order an autopsy when necessary to establish the cause of death, not only would the entire medical evidence be ready for the jury at its first session, but as in three-fourths of the suspicious deaths natural causes of death could be demonstrated, three-fourths of the inquests would be prevented, in other words, 2,160 of the citizens of Montreal would annually escape the annoyance of having to sit on juries in order to bring in verdicts of death from natural causes, and the attention of the coroner and his juries would be concentrated on the few really criminal cases. Unfortunately we learn from the very highest authority that the holding of autopsies in order to prevent inquests is illegal and contrary to the spirit of the British criminal law. This is a matter to be regretted, as it causes much loss of time and unnecessary expense.

The British Coroners' Act of 1887, however, empowers the coroner to order an autopsy to be performed before the jury is summoned: were this the case here much of the jurors' valuable time would be saved in the minor cases.

Education of Jurymen.—Out of 1,200 jurymen empanelled for a series of 100 consecutive inquests 879 signed their names and 321 made their marks. The percentage that signed is 73.2, and I am informed by Mr. Biron, Coroner's Clerk, that a number more were able to write but refrained from doing so; some from modesty, others for fear of soiling the paper. We may assume that about 80 per cent. of the jurymen were able to write, but from the appearance of the signatures I should judge that less than 50 per cent. were persons who had written sufficiently often to give any character to the handwriting. Some of the most sensible verdicts were rendered by jurors, none of whom could write, and some of the most absurd ones bore the autographs of all twelve jurors.

Inquests in past Six Months.—In the 202 inquests held from January to June, 1893, the following verdicts were returned. We have placed in separate columns the cases in which we were consulted as experts, and also those in which autopsies were made.

In 88 cases out of 202 (that is to say, 43 per cent.), the investigations were what is known as *ex-parte*, or held by the coroner without summoning a jury. In these cases the suspicions of crime were either very slight or shown to be groundless upon preliminary inquiry.

The regular fees were not paid to medical witnesses in these cases, except in three instances where the medical expert was consulted; in the remainder the testimony was informal and not taken under oath. The practice of holding these *ex-parte* inquests appears to have been discontinued, none being recorded in the month of June. In other words, public records are not kept of the cases in which, upon inquiry, the coroner does not find cause for summoning a jury.

Table showing relative frequency of inquests before coroners, of coroner's inquiries without juries, and of autopsies, for the half-year from January to June, 1893. The percentage of inquests in which autopsies were ordered is also given for each month. This has increased from 7.3 per cent. in the first quarter to 14.6 per cent. in the second.

Months, 1893.	Inquests before Jury.	Inquiries without Jury,	Total number of deaths investigated by coroner.	Autopsies.
January	9	14	23	3 (13 per cent.)
February	11	24	35	2 (6 per cent.)
March	14	21	35	1 (3 per cent.)
April	13	15	28	6 (21 per cent.)
May*	22*	14	36	4 (11 per cent.)
June	44	0†	44	10 (22 per cent.)
Total	113 (57 per cent.)	88 (43 per cent.)	201	26 (12.8 per ct.)

*One inquest in a case of arson is omitted, as having no bearing upon medical evidence.

† Since the 1st of June no public record is made of the facts elicited by coroner's inquiry in the cases where it is not necessary to summon a jury.

Table showing the verdicts of the Coroner's Court for the District of Montreal from January to June, 1893, including the conclusions arrived at in *ex-parte* inquests held without jury in minor cases; these are also placed in a separate column:—

Verdicts.	Ex-parte. No Jury.	Expert called.	Expert not called.	Total.	Autopsies.
I.—Homicidal Deaths.					
Manslaughter	..	1	1	2	1
Jury undecided—Manslaughter or Justifiable Homicide	..	1	..	1	1
Infanticide	..	1	..	1	1
Total	0	3	1	4	3
II.—Suicidal Deaths.					
By Paris Green	..	2	3	5	2
Rough on Rats	..	1	..	1	1
Sulphate of Copper	..	1	..	1	1
Cutting Throat	..		2	2	..
Hanging	..	1	..	1	..
Drowning	..	1	..	1	1
Firearm	..	1	..	1	0
Total	0	7	5	12	5
III.—Accidental Deaths.					
Fall into Hold of Ship		1		1	..
Railway Accident	..	7	3	10	1
Street Car "	...	1	3	4	..
Elevator "	..	3	..	3	..
Carriage "	..	1	2	3	1
Runaway Horse Accident	..	2	..	2	..
Tobogganing "	..	1		1	..
Machinery "	..		1	1	..
Firemen on Duty		1	2	3	..
Others Suffocated by Smoke	..		1	1	..
Fall of Building	..	2	..	2	..
Fall of Derrick	..	2	..	2	..
Fall down Stairs	1	..	2	2	..
Explosion of Gas	..	1	..	1	..
Blasting Accident	..	..	1	1	..
Explosion of Water Pipe	1	..	1	1	..
Burning	4	4	5	9	..
Scalding	..	..	1	1	..
Inhalation of Gas	..	1	3	4	..
Choked by Food	2	1	2	3	..
Hæmorrhage Umbilical Cord	..	1	..	1	1
Over-Laying (Suffocation of Infant in Bed)	1	..	1	1	..
Accidental Drowning	1	7	4	11	1
Administration of Chloroform	..	1	..	1	1
Sudden Death from Lead Colic	..	..	1	1	..
Poisoning by Morphia	..	..	1	1	..
" Soothing Syrup	1	..	1	1	..
" Chlorodyne (Anticholerique)	1	..	1	1	..
Insolation (Sunstroke)	..	..	1	1	..
Exposure	..	1	..	1	..
Paralysis from Exposure & Intemperance.	..	1	..	1	..
Total	12	39	37	76	5

Verdicts.	Ex-parte. No Jury.	Expert called.	Expert not called.	Total.	Autopsies.
IV.—Deaths from Natural Causes.					
1. *Nervous System:*—					
Apoplexy	3	..	3	3	..
Cerebral Hæmorrhage	..	2	..	2	2
Abscess of Brain	..		..	1	1
Congestion of Brain	1	..	1	1	..
Meningitis	..		1	1	..
Paralysis	1	..	2	2	..
2. *Circulatory System:*—					
Heart Disease	16	1	18	19	..
Fatty Degeneration of Heart	1	..	1	1	..
Aneurism	1	..	1	1	..
Syncope of Heart	1	..	1	1	..
Heart Disease aggravated by Intemper'nce	..	..	1	1	..
Syncope of Heart caused by Intemperance	..	..	1	1	..
Cardiac Asthma	1	..	1	1	..
3. *Respiratory System:*—					
Asphyxia	1	..	1	1	..
Pneumonia	3	4	3	7	3
Congestion of Lungs	1	..	2	2	..
Pneumonia or Heart Disease	1	..	1	1	..
Inflammation of Lungs	1	..	1	1	..
Pulmonary Embolism	..	..	..	1	1
Hæmoptysis, Phthisis	1	..	..	1	1
Consumption, Phthisis	8	..	9	9	..
Capillary Bronchitis	..	..	1	1	..
Pulmonary Apoplexy caused by Emotion	..	..	1	1	..
4. *Digestive System:*—					
Inflammation of Bowels	1	..	1	1	..
Cholera Morbus	1	..	1	1	..
Diarrhœa	..	..	1	1	..
Peritonitis	2	..	2	2	..
Cancer of Liver	1	..	1	1	..
Hepatic Colic	1	..	1	1	..
Jaundice	1	..	1	1	..
5. *Urinary System:*—					
Urethral Fever	2	..	2	2	..
6. *Generative System:*—					
Puerperal Fever	1	..	1	1	..
Metroperitonitis	1	..	1	1	..
7. *Other Diseases:*—					
Purpura	1	..	1	1	..
Dropsy	1	..	1	1	..
Infantile Debility	..	1	1	2	..
Senile	2	..	3	3	..
Stillborn	..	3	..	3	3
Sudden Death from Lead Colic	..	..	1	1	..
Tumour	1	..	1	1	..
Incurable Disease	1	..	1	1	..
Intemperance	..	1		1	..
Total	59	15	70	85	11

Verdicts.	Ex-parte. No Jury.	Expert called.	Expert not called	Total.	Autopsies.
V.—Open Verdicts.					
Sudden Death—No cause assigned	3	..	3	3	..
Unknown Causes	8	..	8	8	..
Natural Causes	5	..	6	6	..
Unknown Natural Causes	..	2	1	3	..
Canadian Cholera or Poisoning	..	1	..	1	1
Found Drowned	..	3	..	3	1
Total	16	6	18	24	2
Summary.					
Homicides	0	3	1	4	3
Suicides	0	7	5	12	5
Accidents	12	39	37	76	5
Natural Death	59	15	70	85	11
Open Verdicts	16	6	18	24	2
Total	88	70	131	201	26

Inquests without Medical Evidence.—In 22 of the cases, or nearly 11 per cent., no medical testimony at all is recorded, the verdicts being as follows:—

Accidents.		Natural Causes.		Open Verdicts.	
Burned	1	Consumption	2	Sudden Death	2
Railway Accident	1	Pneumonia	2	Natural Causes	1
Accidentally Drowned	2	Heart Disease	2	Unknown Causes	5
Inhalation of Gas	1	Pneumonia or Heart Disease	1	Unknown Natural Causes	1
		Debility	1		
	5		8		9
				Total	22

The advisability of saving physician's fees in these cases, if any grounds existed for making an enquiry at all, appears questionable; certainly, in those cases where death was not due to accidents attested to by reliable eye-witnesses, it hardly seems prudent to act entirely without medical testimony. The fact that in 53 per cent. of these cases open verdicts were the result, speaks for itself.

Upon looking at the *ex-parte* inquiries it will be seen that out of a total of 88, 59 (*i.e.*, 67 per cent.) were in connection with cases where death appeared to be due to natural causes. In other words, two-thirds of these cases were essentially of a

medical nature. If we exclude the 12 accidents where, of course, the nature of the violence was obvious and only the question of responsibility remained to be decided, we find that out of the 66 remaining cases 89 per cent. were assumed to be due to particular diseases. As the remaining open verdicts in 16 cases were probably also of a medical nature, we find only 12 cases out of the whole 88, or less that one-seventh, were what might be called non-medical. No better proof of the necessity of expert medical work in minor cases in the Coroner's Court could be afforded than is shown by this analysis of the material.

Taking the entire number of cases dealt with, 202, and deducting 24 open verdicts, 1 case of arson and 76 accidents where the nature of the violence which had caused death was obvious in almost every case, we have 100 cases left. In these, 85 verdicts of death from natural causes were returned, making it evident that of 100 deaths under circumstances arousing the coroner's suspicions, 85 per cent. were essentially medical in nature, and therefore required skilled medical investigation to decide their real nature, in addition to the medico-legal study of the 15 really medico-legal cases remaining.

In several of the suicides, autopsies were ordered to establish whether the patient was of unsound mind, and in one case fairly positive proof of this was obtained, large symmetrical cystic spots of softening being found in the brain.

In the cases of suspected infanticide autopsies were invariably performed, the coroner rightly deciding that the proof of the child having breathed was indispensible. Under the old régime of a few years ago autopsies were never held in these cases, and frequently even the inquest was omitted.

In one case of death after a private surgical operation professional questions of a sufficiently delicate nature threatened to arise, but the friends having come to the conclusion that the surgeon had acted for the best withdrew their demand for an investigation, much to our relief.

Pneumonia was found to be a frequent cause of death under suspicious circumstances. In one case where a verdict of death

from alcoholism had been rendered, and in consequence burial in consecrated ground was denied, a private autopsy showed that pneumonia was the cause and the restriction was withdrawn.

We do not think it well that private autopsies should be held in such cases, as it would appear to be only just that the Government should investigate the matter fully if the friends are not satisfied with the verdict, even if there is no crime. This would be decidedly more dignified than having the finding of the jury repeatedly shown to be wrong by the results of private autopsies afterwards made. In France an appeal of this kind always receives careful official consideration.

In one of our cases classed as debility and one of pneumonia, both in children, very clear evidence was forthcoming of neglect on the part of the parents. A number of other instances of this have come under the notice of the coroner. In these cases it is impossible to proceed in the absence of the evidence given by autopsies, as if the child really suffers from an incurable organic disease, and the life could not have been saved by ordinary medical and other care, criminal negligence could hardly be proved.

It may be remarked in this connection that our present law, which makes parental neglect amount either to manslaughter or nothing, makes it impossible to get incriminating verdicts from the juries. In England offences of this kind may be dealt with as misdemeanors and a moderate fine or short imprisonment inflicted after a summary trial. Such a change in our criminal law would be the means of saving many young lives, and we would commend it to the attention of the Society for the Protection of Women and Children, or to our Citizens' League. We are glad to learn that a society is being formed to deal with this matter.

It will be noticed that no cases of criminal abortion were brought to light, although we know that they are frequently performed in Montreal. We have been told on reliable authority that competition has reduced the charge for this operation in certain quarters to ten dollars. Were an autopsy performed in all cases of suspicious death it is not unlikely that some deaths

now assigned to natural causes would prove to be cases of this character. One of us knows of a case which happened some years ago and where a woman died of severe uterine hæmorrhage under most suspicious circumstances. In this case heart disease was stated to be the cause, upon the strength of an external examination.

In none of the cases of poisoning by gas was any proof of the presence of carbon monoxide asked for. One of the favourite verdicts still continues to be death from exposure. We have examined two of these externally and reported the absence of external signs of fatal disease and the necessity of an autopsy being held, but none was ordered in either case.

Coming finally to 20 verdicts of "natural causes" and "unknown causes" these might equally well have been rendered in at least 50 other cases, so far as can be learned from the records. We see no objection to the verdict of unknown causes being rendered, but how, when the cause is unknown, it can be stated to be natural, is a matter of which the explanation must be left to the juries who have found this verdict. A fine instance of the perspicacity of a jury was recently given in a case where everything pointed to poisoning by arsenic or corrosive sublimate. After the inquest was over, a private analysis found evidences of the presence of arsenic in this case, and the possibility of cholera morbus as a cause was definitely excluded at the autopsy. The jury found, "that the deceased came to his death either by cholera morbus or by poisoning. It is not possible, without making a chemical analysis, to determine which of these causes is the true one, and in the present case is of no consequence." In the words of Ruddigore, "It really doesn't matter!"

In another recent case where an individual had disappeared for two days, at the end of that time his dead body being found locked up in a cottage, with the furniture strewn about and overturned and with marks of violence about his face, the verdict returned on the strength of the medical evidence was death from a convulsion due to chronic lead poisoning. This was one of the cases in which we were not summoned to examine the body.

In the case of bodies which have lain some time in water, putrefaction sets in with extreme rapidity. We have seen bodies freshly removed from water, and in which much could be made out by an examination made at once, putrify so rapidly that in a couple of hours they had become quite unrecognizable. Our only inconclusive autopsies were held upon drowned bodies which had thus putrefied.

The only satisfactory means of preventing this is by having a refrigerating chamber similar to that in use at the Paris Morgue, where bodies are promptly placed in a dry, cold atmosphere of about 5° Fahrenheit for 24 hours, and afterwards preserved indefinitely in a cold chamber kept at about 25° to 35°. This latter is furnished with a glass front and placed in a passage accessible at all times to the public. If necessary the bodies may be kept years in this manner, and may not only be identified at the end of that time, but if gradually thawed out an autopsy may be performed, with results almost as conclusive as on the fresh cadaver. In this way there is no nuisance or danger to health.

Comparing the results of the past six months with a period of six months in 1890, we find that then in a half-year, out of 123 inquests, in 16 cases the verdict was simply "found dead," and in not one of these was an autopsy made; out of 7 cases of cerebral apoplexy no autopsies were made, and for one verdict of "cerebral congestion" no medical testimony was taken. "Synecopy" of the heart was responsible for 7 deaths, no autopsies being ordered, and pulmonary congestion for 4 cases, of which 3 were in the case of unknown persons found dead—no autopsies. One case died of a "broken heart," and one of "angelis pectoris," 9 were found drowned, 4 accidentally drowned, and in 8 cases medical testimony was not called for.

To a certain extent, "*nous avons changé tout cela*," but even during the past six months some medical opinions have been given which is sufficiently remarkable. I mention a few only. "Sudden death from hepatic colic" in a child three days old, and without jaundice, is odd, to say the least. "Congestion of the brain caused by fatty degeneration of the heart"

is also an original idea, and worthy of a niche in history. Sudden death from "metro-peritonitis" in a patient who seemed to be in perfect health up to the moment of her death, is an observation which it falls to the lot of very few to make. In one case, when the patient complained of pains in the region of the stomach for several days before death, and had a considerable hæmorrhage on the night of his death, we find the statement that death "*must* have been due to heart disease or pneumonia." In half of the cases where death is stated to have been due to heart disease, the medical men had never seen the cases during life. In no heart cases is any attempt made to note whether any objective signs of heart failure, *e.g.*, dropsy, clubbed nails, etc., were to be seen on the body. In one case, "congestion of the lungs" was diagnosed post-mortem from external examination by a physician who had never seen the man alive, but the secret of the process is not imparted.

In one case, where a death occurrred in a public institution, and the patient had been ill several days without the doctor having seen him, the jury are careful to state that "no blame is to be attached to the authorities, but, on the contrary, they deserve praise for the good care they took of the deceased." ("*Au contraire, des louages pour leur bon procédés à l'égard du défunt.*") This was certainly very considerate of the jury, but politeness may be carried too far.

In the case of a woman who died suddenly, death should hardly have been put down to heart disease when nothing more definite than "oppression" had been complained of during life, although a doctor called in after death "had no objection to believe" that she died of this favourite lethal agent of coroners' courts. The only reason seems to be that the family were respectable people (*des braves gens.*) Something more tangible should be forthcoming as a proof of the cause of death when the imposing machinery of a Coroner's Court has once been set in motion, even in the case of the most respectable families. The same physician had equally little objection to believe the same thing in another case on equally slender grounds.

In this matter of determining the cause of death, coroners are placed in a very difficult position, because the law does not require them to find out the exact cause, but merely to see if a crime has been committed. To incur expense which does not lead to the detection of crime is considered one of the cardinal sins. That neighbours' testimony as to the character and habits of the suddenly deceased is of great value in affording what in law is called a "presumption" against crime there can be no doubt, and from study of the records I can testify to the great pains which our own coroner always takes to investigate this side of the question. In all the records the following points are carefully covered by the non-medical testimony :—

1. Marks of violence absent.
2. No external signs of poisoning.
3. Deceased stated to have eaten and drank only those things taken without ill effect by others.
4. Deceased did not, from conversation or behaviour, lead the friends to suppose that suicide was contemplated.
5. Deceased not known to have enemies.

Now, these points, important as they are, do not prove a natural death. The utmost interpretation which could be put upon them is "death from unknown causes, without suspicion of crime." This is better than attributing the death to unspecified "natural causes," and much better than ascribing it to an imaginary heart disease which probably does not exist in the majority of cases.

The laity always suspect poison when death is sudden, but the medical profession knows that but very few poisons exist which can cause people to drop dead. The external evidence of poisoning is usually absent, or at least has not been present in any of the four cases we have examined. Absence of statements as to intended suicide would not seem to be of much value, judging from the fact that in only one of the 12 cases of suicide which have been investigated had any statement been made by the victims of their intention. People who *talk* suicide seldom commit suicide. The great disadvantage of all this sort of evidence is that it is mostly obtained from those who may be

interested. As Coroner McMahon has often pointed out, people in large cities know very little about the doings of their neighbors, the conditions being quite different from those obtaining in country places. When death from unknown causes satisfies the ends of justice, well and good; but for any more explicit cause of death it would be simpler, instead of trying to exclude the many possible causes which are absent, to find out the one real cause.

We have a great admiration for juries in general, and admire the spirit of fairness invariably shown by our Canadian juries in particular, when human interests are really at stake. Their sympathy for the wronged and unfortunate is worthy of all praise, and they stand in no awe of the corporations which oppress us, but as an institution for finding out causes of death they are not an unqualified success.

When the cause of death is not clear without an autopsy we have made it our practice simply to state that fact. This has had the result, not of an increased number of autopsies, but in an increased number of deaths from unknown causes—presumably, visitation of God. We live in hopes that these numerous "visitations of God" may tend to hasten a millenium when autopsies will be more frequent.

The first and most important duty of the medical witness is to ascertain the cause of death, and it is satisfactory to know that of the 26 autopsies held the cause of death could be definitely stated in every case except three, two where the bodies had remained a long time in the water and become greatly decomposed, and one shown to be due to poison. Even in these unpromising cases, however, the important medico-legal points could be determined at the autopsy. Presuming that the same precision as to the cause of death would have been attained in the remaining cases, we may assume that had autopsies been made at all the inquests about 180 deaths out of 201 would have been satisfactorily explained.

In 14 accidents, where external examinations only were allowed, the cause of death could only be made out satisfactorily in 6, 2 having broken necks, and 4 having the skulls completely

crushed in. In the remainder we confined our statement to the fact that sufficiently severe external injuries existed to be compatible with the presence of fatal internal injuries not evident from external examination.

When no accident had taken place the external examination gave almost uniformly negative results. In 15 such cases we confined ourselves to the statement that it was impossible to state the cause of death from the external examination, and that if the determination of the cause of death was necessary an autopsy would have to be made. In no case did we make any attempt to guess at the probable cause.

In following strictly this rule we were guided by the principles laid down by Brouardel, probably the greatest of all living medico-legal experts, that the duty of the expert in medico-legal cases is to state either that a certain fact is proved, or that it is not proved, and to show sufficient facts in support of any conclusion drawn to make the testimony amount to a demonstration. Demonstrations, not opinions, are what is wanted. In no case is a witness in medico-legal cases justified ingiving his opinion unless he can support it by statements of acts which establish its correctness. The great reputation now enjoyed by the French school of legal medicine is as much due to their strict adherence to this principle as to the brilliancy of their methods and the clearness of their logic.

Unfortunately the necessity for this scientific attitude is not yet appreciated by many of those who give evidence before coroners. If they do not know the cause of death they feel bound to hazard a guess and appear to know all about it. Much of the loose medical evidence given before coroners is due to the pertinacity with which juries will persist in asking whether the cause of death may not probably or possibly be due to such and such a thing. If the least admission is made they will promptly render a verdict to that effect, for which the medical witness becomes virtually responsible, though fully aware that there are a dozen other causes, any one of which may be the right one. The only resource of the medical witness is to refuse to say more than is established by the facts which have come

under his notice. He is under no obligation to say what *might have been*, but only what *was* the case, if he can. "Of all sad words, the saddest are these—'it might have been,'" when they form part of medical evidence before coroners; and to this and unfounded medical testimony rather than neglect of juries must be held responsible for much that is regrettable in the past six months' evidence.

We have wondered not a little in reading the records of inquests why it is that medical witnesses so seldom make a written statement of the facts which they observe, and of the conclusions which they have drawn from them. In the past six months, apart from our own testimony, this does not appear to have been done in a single instance; and yet it would form the greatest safeguard a medical man could have against any future charge of giving a wrong opinion, as at any future time by consulting the record it could be shown why that particular opinion was given. This is the universal practice in other countries, and witnesses are obliged by law to state the facts upon which they form their opinions. There is no need for any reserve or hesitation in stating facts. Personally, in following this system we have found that time is saved and cross-examination shortened if a written report is submitted. We can confidently recommend this plan to others.

We constantly find that too little time is given to prepare a report, because the jury has to meet at a certain time. In France a physician charged with an "expertise" is given as a rule a week in which to prepare his report, unless the matter is specially urgent, and a clear 24 hours should certainly be allowed.

It should be borne in mind that the medical opinion in an ordinary death certificate, where no grounds for suspicion existed, is only needed for general statistical purposes, and therefore *approximate* accuracy in a large number of cases suffices. Where, on the other hand, suspicion of a crime exists, what is wanted is, as nearly as possible, absolute accuracy in the one particular case. Slight inaccuracies in a mass of general statistical information tend to correct themselves. Serious inaccuracy in a single important criminal matter is quite inexcusable.

Great inconvenience is caused by the absence of an official clerk or secretary to take notes of the autopsy, so that the physician could always describe appearances while they were before his eyes. In other countries this is always attended to by a special official. Apart from the physical labour of writing out a long report, there is great danger that facts will be forgotten and error creep in if the memory is trusted to. Besides this, in the act of description new points are suggested for investigation which otherwise may be forgotten till it is too late.

Another defect is the absence of any system by which written instructions as to the nature of the information wanted is furnished the expert. In France and Germany a definite series of questions are asked the expert, and he thus knows what is expected of him and can give full information upon the vital points of the case. Official regulations are also greatly needed as to the technique to be followed in making an autopsy. Were there any instructions as to the advisability of some of the clothes of the deceased being removed before the autopsy is considered finished, we should not recently have heard of undertakers discovering bullet wounds unnoticed by the medical experts during their post-mortem.

Another important matter is that arrangements should be made by which the expert shall see the body before it has been disturbed. In six months' work we have hardly seen a single body in the state and with the conditions and surroundings which existed at the time of death. It is almost always transported, undressed, placed in a coffin, or otherwise interfered with. In some instances embalming had even been done by the undertaker.

The chief complaint against the Coroner's Court in the past has been in regard to want of precision respecting the causes of death assigned. We have seen that in the past six months a material improvement in this respect has taken place, and a larger number of the causes of death are supported by some tangible evidence. This improvement, however, has been limited to those cases where autopsies have been performed, and until this is done in every case where inquests are held it

is not likely that the verdicts of coroners' juries will be taken as representing the truth, the whole truth and nothing but the truth, about the deaths which they investigate. Apart from accidents attested to by eye-witnesses, about 90 per cent. of all the cases coming before the coroner are cases of natural death, and without the control afforded by the results of post-mortems and the counsel of a medical expert, it is not reasonable to expect a coroner having a legal training only to estimate the amount of credence to be attached to all the diverse medical evidence given in these cases. Taylor wrote, over thirty years ago: "As a general rule, it may be stated that inquests in which there is no medical examination of the body are a vain mockery, and the sooner the public becomes imbued with that idea the better it will be for society." Whether this still holds good of Montreal inquests may be judged from the results we have given of the past six months' work.

It is our experience that where an external or partial examination only is made the results are nearly or quite valueless. Hence, in cases where no autopsy is performed the investigation cannot be regarded as a serious one from a medical standpoint.

Although the number of autopsies held shows an increase as compared with former years, yet, even now, in 200 inquests only 26 autopsies were held, or, in other words, only 12 per cent. of the cases of suspicious deaths received serious medical investigation, although nominally over 200 examinations of the body were made (and paid for.)

It may be stated that in 76 cases of acccident, forming 38 per cent. of the total, the death was obviously due to an accident attested to by eye-witnesses, and that a medical examination was superfluous. If it was superfluous, why was it made at all? If it was necessary, why was it not ordered to be made thoroughly? Why is it that autopsies are often hurriedly done, "while you wait," because the jury are in a hurry?

It appears that further reform in this matter is urgently necessary, and we may conclude by mentioning briefly the directions in which it should be made:—

1. Autopsies should be performed in all cases of suspicious or sudden death where the cause of death is doubtful.

2. The coroner should be allowed to decide whether an autopsy is necessary, and to order it to be performed, if advisable, before the jury meet. (English coroners, under Vic. 50 and 51, cap. 71, are allowed full discretion as to the ordering of autopsies and the time when they shall be held.)

3. In medical testimony, the observed facts upon which opinions are based should always be stated, preferably in writing.

The improvement which has been effected already is a hopeful indication for the future, and we hope in the report of the next six months' work to be able to show a decided advance over that of the past half year, which may be regarded in the light of an experiment.

GASTRIC NEURASTHENIA.*

By N. D. Gunn, M.D.

The subject which I have chosen is one that can be but very imperfectly handled in one paper, so that instead of attempting to go completely over the ground, I select cases representing two or three of the commoner forms of this interesting malady, and hope, with the permission of the Society, to supplement later on this small contribution.

To fully appreciate the importance of our subject it is necessary to remember the gross and minute anatomy of the stomach, with special reference to the nerve supply. This hollow muscular bag is suspended in the abdomen in such a way that it is capable of great movement, so that each change in posture of body has a corresponding change in the stomach.

Besides these extraordinary movements, the stomach has others which are mainly peristaltic; the wave passing from the pyloric end along the greater curvature to the cardiac. There is also a small return wave along the lesser curvature.

It is by these complex motions that the food is brought into contact with the mucosa, and it is quite probable that the movements are for the most part specific and not originated by

* Read before the Montreal Medico-Chirurgical Society, April 14th, 1893.

impulses entering by the nerves,—the latter acting only to bring the stomach into concerted action with the rest of the body.

The nerve supply consists of the two vagi, numerous fibres of the splanchic branches of sympathetic. Intrinsic ganglionic cells belonging to Meissner's and Auerbach's plexuses, and possessing the same arrangement as that found in small intestines, are of much interest and importance; the more so as Jurgens, of Berlin, has lately demonstrated degeneration in these ganglionic plexuses in certain neuroses of stomach.

Experiment shows that the sympathetic has nothing to do with the movements, as section and stimulation are equally disregarded by this viscus.

When the vagi are cut, the movements still go on, but in a more or less eccentric manner; thus it seems that the vagi merely preside over the rhythm, without actually carrying the impulses that set the mechanism in motion.

Need it be wondered at, then, that in an organ so independent as the stomach, with a nerve arrangement so complex, that we have nervous disturbances dependent on, and sometimes confined to this viscus. The great wonder is that for many decades after the renaissance in medicine, no thought was given to the possible relation of digestive disturbances to the nervous system. Catarrh and inflammation were then the *sine qua non*, the beginning and the end of all disorders, and when it was impossible to relegate the disorders to either of these categories, the physician satisfied himself and the patient by the most vague of terms "acute or chronic indigestion."

I wonder how many physicians of to-day look at the tongue, inquire about the bowels, diagnose dyspepsia and lean back satisfied with himself and the impression he makes on the patient. It is a fact that too many in all the sciences are looking too much at effect and not enough at cause. How many in our profession can prescribe a tasty and finely coloured mixture who have not yet learned the amount of solid and liquid food necessary to maintain the functions of body in health for twenty-four hours.

As late as 1878 Leube, who is father of the advances made in this line, concluded that many disturbances, found especially in women, which heretofore were called catarrh, are truly of nervous origin, and to substantiate his contention he gave the ordinary test breakfast, and after digestion began he examined the contents and found that in many of these cases digestion proceeded and continued perfectly normal. Yet, accompanying this act, certain symptoms developed, as headache, dizziness, palpitation, and others referable to the digestive tract, such as belching, eructations, yawning, hiccough, gaping, griping, etc. Leube argued that there must either be a poison generated and absorbed, or the nerves of the stomach must be hyperæsthetic.

As the disturbances began almost immediately food was taken he concluded, rightly enough, that the poison theory was untenable and that hypersensibility was the only sensible explanation.

It is somewhat difficult to understand that these disturbances, coming often without any apparent cause, should affect the stomach, but few, if any, have a perfectly balanced nervous system, and vulnerable points are to be found if sought in every individual—points that respond too fully or too feebly. No resistance, no inhibitory power,—nerve storms sweep over them like the wind over the high seas. Weak by nature, weakened perhaps by excesses, what wonder that the stomach may, like other organs, call to us aloud. To-day it is admitted by all who have studied gastric diseases, that there exists a well marked neurasthenia which admits of classification according to the function disturbed—so that we may distinguish motor, sensory, secretory, and perhaps vaso-motor disturbances, the latter because it is possible theoretically, though no cases have been reported so far as I know, and would no doubt be very difficult to diagnose, unless cases which are characterized by great faintness and pallor be put in this class.

I will now give a history of two cases as taken from note book, the first being a type of what is known as Anorexia Nervosa.

Mrs. R., aged 36, came to office complaining of pain, as she

called it, behind the eyes. I examined and found no impairment of vision. I then went into the case more fully, which is as follows:

Patient tall, angular and fair complexion; never was strong and since marriage worked unceasingly; bad family history—father, mother, two brothers, one sister, an uncle and aunt dying of pulmonary tuberculosis.

She was mother of six children, all showing more or less scrofulous habit, one being sorely afflicted with tubercular adenitis.

Physical examination showed a poorly nourished woman with long chest, projecting scapulæ, soft bloodless skin and flabby muscles, areolæ about the eyes, pinched lips, etc. She looked as if she longed for a transition to some happier clime. To a casual observer would seem as one ready to lie down and die but for duty to husband and family. Lungs and heart normal, urine pale, no albumin, no sugar; bowels regular as a rule, some times a slight diarrhœa; tongue pale, clean and flabby. Appetite was entirely absent, never eating anything except when forced to by the family. Many days she worked without anything more than a cup of tea. She had not tasted meat for two years, bread and potatoes being her chief diet. She was not hysterical and by no means verbose, in fact, were it not for the pain about the eyes she would not think of consulting a physician. Rest with forced feeding effected a cure without medicine.

I have here detailed the history of a case who from birth was weak, and whose surroundings were not of the pleasantest.

J. Matthews Duncan says, "A good example of this trouble is one of the most ghastly spectacles you will meet with in practice, but the sadness of the picture is relieved by the fact that they always get better."

There is no wish for sympathy, as is found among hysterical patients—*au contraire*, they seek seclusion and say very little. The mental faculties remain unimpaired, in fact it seems as if in some the perceptive faculties become more acute and the reasoning more incisive.

Physically the case is still more wonderful, for the amount of exertion these patients are able to undergo is simply astonishing. They delight in long walks in lonely places, away from the annoyance of sympathizers and friends. If engaged in household duties they pay strict attention to every detail. They sleep well and are not melancholic as a rule; and when forced into company are not by any means disagreeable companions, for they never burden you with woes and heart-rending stories of misery and wretchedness.

This distressing condition must have an end, and often suddenly. The collapse comes, the tension is relaxed, the nerve-storm has spent itself and kind nature, ever ready to assert itself, comes to the rescue. Inviting dishes prepared by solicitous friends and forced upon a submissive patient; rest, the greatest of all therapeutic agents; the change in habits which illness often brings, always succeeds, in spite of the nauseating mixtures prescribed, in restoring the health.

Case II.—This is another sensory disturbance, but I mention it as showing that a sensory neurasthenia may be preceded by a motor, pathological equivalent, so to speak. Mr. G., aged 45, book-keeper, complains of severe pain in stomach about, as he expresses, two hours before meal time or three to four hours after eating. Especially liable to these attacks after any worry, and they usually persisted for some days.

Family history good; personal history interesting. From puberty up to time he had left England for a sea-faring life at age of 22 he was troubled for two hours after eating with regurgitation of food, which he chewed again and swallowed, this being a true rumination. This stopped when he entered navy, and he never had any stomach trouble again until he left the sea.

Upon leaving the navy he changes his active for sedentary habits and assumes the responsibility of book-keeper in a large firm; soon he begins complaining of stomach pains, and I saw him first on April 10th, when he presented the following history:

Highly nervous temperament, dark sallow complexion, fair muscular development, but no subcutaneous fat; all organs normal, no tenderness over epigastrum; tongue clean, bowels regu-

lar, urine normal; gastric juice as taken after test breakfast about normal as to amount of hydrochloric acid, and digestion with this fluid seemed to go on very rapidly. This was clearly, then, not a case of hyperæsthesia, but rather of gastralgia. This is a unique case, so far as I know, for here we have a well marked example of two distinct neuroses in the one stomach at different times.

General Treatment—It is first always necessary to determine whether the case belongs to the irritative or depressant form of neurosis, also how far the general bodily health needs toning up. In the irritative forms, shown by pain, vomiting, etc., opium and its alkaloids are our sheet-anchors, belladonna, hyoscyamus, chloral and other sedatives acting sometimes very well.

Washing out the stomach, as first recommended at Kussmaul's clinic, often relieves when everything else fails, and it is advisable in all cases that resist for any length of time the influence of drugs to try the washing.

Change of air very often does well; going from a low to a higher altitude and *vice versa*, or from a warm to cooler climate; sea voyages, sea bathing; changes of occupation, as from a sedentary to active life.

In the depressant forms, stimulants and forced feeding. Forced feeding must very often be done by means of a tube, as the patient frequently loathes the sight of food. In such cases gavage, as recommended by Dujardin-Beaumetz, is best method. This is carried out by means of a short rubber tube reaching down œsophagus to a point opposite cricoid cartilage. Food should be liquid and introduced slowly to prevent vomiting. The amount of food per diem for an adult varies within wide limits, but it is always best to begin with a good deal and await developments. Wiessner recommends 100 grammes of albumin, 150 grammes of fat and 300 grammes of carbohydrates. This is represented by two quarts milk, two ounces butter, six eggs and three and a half ounces sugar. Feeding as a rule has not to be continued very long, for when patients find that digestion proceeds regularly they get encouraged and begin to eat of their own accord.

The argument first used and still used against forced feeding for weak stomachs seems hard to answer. But as a weak heart, weak lungs, weak muscles are aided and strengthened by exercise, why can not the same argument apply to the stomach?

Experience has proven that from forced feeding, and it alone, can we expect to get good results in the depressant forms. In the irritative forms, such as vomitus nervosa, forced feeding by the stomach is almost a fatal error, and we must rely on sedatives and enemata; so that care must be taken in our diagnosis.

Each group of cases has its own peculiarities, and must be treated accordingly, and the physician who sticks to the one rut and changes not will often meet with failure. It is in neurotic patients that individual idiosyncracies must be studied and treated. Patience, firmness and tact in the physician are most essential attributes in dealing with these cases.

DYSTOCIA DUE TO HYDROCEPHALUS.*

By D. J. Evans, M.D., Montreal.

Mrs. B., aged 42, IX. para. General health has always been good. Married at 30 years of age. Previous pregnancies normal, with exception of last, which terminated in the seventh month. Labours easy. No abortions. No specific history on either side. Husband somewhat addicted to alcohol. Very early in present pregnancy the patient assisted a friend at her confinement, and was much startled at seeing the head of the child born. She gives this as a possible cause of the condition of her child's head in this instance. Patient, as she approached term, noticed herself to be far larger than she had ever been before, but suffered very little inconvenience otherwise. Labour pains began about 7 p.m., March 10th, 1893. Her physician reached her at 7.30 p.m., and states he found her enormously distended. Pains were frequent and strong. Diagnosed breech presentation. Membranes ruptured about 9 p.m., and a tremendous quantity of water flowed away. The body of the child was born without difficulty about 10.30 p.m.

* Read before the Montreal Medico-Chirurgical Society, March 17th, 1893.

The cord was pulsating, so the physician endeavoured to disengage the head as quickly as possible. No pains being now present, ʒiii. tr. ergotæ were given within an hour. He attempted to apply the forceps, but without success; so he summoned assistance. I reached the case about midnight, and found the child born all but the head. The dystocia had been diagnosed as due to hydrocephalus. This I was able to establish by external palpation, the fluctuating sutures and the edges of the parital bones being easily distinguished. With the concurrence of my colleagues, I then adopted Tarnier's procedure. The vertebral canal of the child was opened in the dorsal region, and a No. 7 gum elastic catheter introduced through it into the cerebral cavity, and a large quantity of serum drained away. As soon as possible the head was drawn down and an opening made behind the left ear, which permitted a large quantity of fluid to rapidly escape, and the head was then easily delivered. The afterbirth was expressed in about twenty minutes, without difficulty, and came away entire. A uterine douch of hot creoline solution (ʒi. to Oi.) was then given, and after the patient had been cleaned, a little pulv. iodoform was dusted over the vulva and a vulvar pad and a binder applied. On the fourth day the temperature was 99 1-5°, so a vaginal douch was given, which brought it back to normal, where it has remained since.

The measurements of the child's head are as follows :—

Circumferences.—	O.F. 66	c.m.
	O.B. 67.4	"
Diameters.—	B.P. 21.0	"
	O.F. 20.1	"
	Sub. O.B. 19.8	"
Length of Body.—	67.4	"

Intra-uterine hydrocephalus is a very rare condition, occurring only once in 3,000 cases. Mdme. Lachapelle records only 15 in 43,555 births.

Hydrocephalus is due to the abnormal collection of serum in the lateral ventricles, which latter may become enormously distended, causing the cranial bones to become thinned and softened and the sutures widely dilated. The condition has been

attributed to syphilis, alcohol, cretinism and consanguinity. The mothers are, as a rule, past forty years of age. Hydramnios is frequent in these cases. The fœti are frequently the subjects of spina bifida and talipes equinus as well.

Spontaneous delivery only occurs in mild cases or where the fluid escapes into the subcutaneous tissue or into the pleural or peritoneal cavities of the child.

Diagnosis.—The diagnosis is not difficult in these cases, if abdominal palpation is carried out systematically. This is the second case I have been enabled to diagnose by this means. The first case I saw in the Clinic Baudelocque, under Pinard's care, in Paris. The large size of the head, the difficulty with which it can be pressed down into the pelvis where the latter is normal (Eindruckbarkeit, as the Germans call this procedure), the fluctuating sensation of the fontaneles and sutures, are all points to aid in diagnosis by palpation. In fat women, where this condition is suspected, the whole hand must be introduced into the uterus, if necessary, to complete the diagnosis.

Prognosis.—For the Child.—Chassainat's records show that in 60 cases of hydrocephalus, 41 died before or during labour. Only 4 out of 19 born alive lived for several years. Paullet, after diligent search, failed to find the record of a single case that, having caused dystocia, lived *For the Mother.*—The great danger is rupture of the uterus. Kieller, of Edinburgh, records that in 74 cases rupture occurred 16 times. Charpentier stated that 17.79 per cent. of these cases die from uterine tearing. Paullet records that in 106 cases 21 mothers died.

Treatment.—As soon as diagnosis is established and dystocia threatens, in vertex cases, perforate with a trocar and drain off the fluid. In breech cases, which occur frequently in this condition (one in every five cases), the proceeding I adopted in this case, which was first employed by Tarnier in 1860, recommends itself by its simplicity, its effectiveness and its lack of danger to the mother.

The forceps are more than useless in this condition, as a hold cannot be obtained, and they are very apt to injure the soft parts by slipping.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

Condensed Report of Case in Dr. Shepherd's Wards.—Ligature of the Femoral for Popliteal Aneurism.—Subsequent Gangrene of Leg—Amputation with Satisfactory Result.

(Reported by Dr. C. F. Martin, House Surgeon.)

W. H. R., aged 65, entered Montreal General Hospital June 23rd, 1892, complaining of a painful swelling behind the right knee.

Present illness had been first observed about six weeks prior to admission, as a slight swelling of the leg immediately above the ankle, and gradually progressing to such an extent that in two weeks from the onset his whole leg was greatly swollen, stiff, brawny and painful. This condition persisted with but little noticeable change, and in two weeks from onset patient for the first time observed a small pulsating swelling behind the knee joint on its inner side, in size somewhat larger than a marble, and very painful and tender. This rapidly increased, becoming daily more painful, but he attended to his usual duties up to a few days before admission, when the intensity of the affection obliged him to remain in bed, and a few days later to enter the Hospital, when the local condition was as follows:—The right leg, from the knee downwards, was greatly swollen and œdematous, being $3\frac{1}{2}$ inches greater in circumference at the calf than the left leg. Veins were very prominent, the parts brawny, stiff and painful, while pressure over the tibia caused intense pain. Behind the knee joint was a large, diffuse, pulsatile swelling, its most prominent part being on the inner side of the joint, where the growth was almost equal in size to a hen's egg. The pulsation was distinctly expansile, and could be readily stopped by pressure on the femoral in the groin. Auscultation revealed a loud bruit.

General Condition.—Patient fairly nourished, with no evidence of disease in any of his organs. Marked general arterial sclerosis.

Personal History—Is one of regular living, with no record of any venereal disease or intemperance.

Family History.—Negative.

Treatment.—After due consultation, Dr. Shepherd decided upon operative procedure by means of ligating the femoral in Scarpa's triangle. On June 24th patient was anæsthetized, ether being used, and when the preliminaries had been completed an incision was made over the artery, which was readily reached and isolated by two stout silk ligatures. These were securely tied in two places, and the artery cut through with scissors, whereupon the arterial walls were found greatly thickened and atheromatous. Parts were next thoroughly irrigated and the wound sewed up with silkworm gut, no drainage being used. Immediately after the ligation the pulsation in the aneurism ceased, nor did any sign of returning pulsation appear subsequently. Patient recovered well from the anæsthetic, while the wound itself made excellent progress, good union being found eight days later, when for the first time the wound was exposed and the stitches removed. The leg, however, below the ligatured artery, showed no evidence of the establishment of collateral circulation, the foot being quite cold and sensation about the toes diminished. Foot was wrapped in cotton wool and hot cloths applied to the leg. On the third day from operation, distinct evidences of gangrene appeared, there being a bluish-black discoloration for five or six inches above the ankle, while the limb itself was cold and insensible to pain in this region. Skin dry and cracking superficially, while about the toes small blebs formed in several places. Temperature 101°. Tongue coated. Patient suffering from headache and constipation.

The above condition progressively intensified, to such an extent that five days later the three inner toes were of a dark blue black color and covered with blebs; the remainder of the leg was discolored up to the junction of the upper and middle third, where an irregular serrated line marked off the living from the dead tissue.

On July 4th a second operation was performed, the leg being

amputated about four inches above the knee, by the circular method. Two rubber drains were inserted and the flaps sutured with silkworm gut. Drains were removed within 48 hours, and the stitches on the tenth day, no untoward symptoms marring the future progress of the case. Several weeks later patient walked about on crutches, and early in August left the Hospital, the stump being in excellent condition.

Reviews and Notices of Books.

What to Do in Cases of Poisoning. By William Murrell, M.D., F.R.C.P., Physician to and Lecturer on Pharmacology at the Westminster Hospital; late Examiner in Materia Medica in the University of Edinburgh, and to the Royal College of Physicians of London. Seventh edition. London: H. K. Lewis. 1893.

The seventh edition of this most useful little book has been enlarged and improved. The directions for treatment are brief and to the point, and the work is thoroughly practical. As an emergency work we know of none which we can recommend with greater confidence than this work of Dr. Murrell, and the number of editions published show that it is thoroughly appreciated.

The Anatomy of the Peritonæum. By Franklin Dexter, M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons (Columbia University), New York. With 38 illustrations. Price $1.50. New York: D. Appleton & Co. Montreal: Wm. Foster Brown & Co., 233 St. James street.

As the author says, there is no part of anatomy which is quite so unsatisfactory or incomprehensible to the student as the peritonæum. By tracing the development of the abdominal organs from the time that the intestinal canal is a straight tube until the organs with their peritoneal investiture are fully formed, the writer shows how the changes are produced, and thus gives a clear idea of what the peritonæum is and how its anatomical condition is brought about. The book consists of a number of illustrations, more or less diagrammatic in char-

acter, with accompanying descriptions. In this way the steps in the development are easily understood and appreciated, and much help can be obtained by the student from a perusal of this pamphlet.

History of the Life of D. Hayes Agnew, M.D., LL.D. By J. Howe Adams, M.D. With 14 full-page portraits and other illustrations. In one large royal octavo volume, 376 pages, extra cloth, bevelled edges, $2.50 net: half-Morocco, gilt top, $3.50 net. Sold only by subscription. Philadelphia: The F. A. Davis Co., 1914 and 1916 Cherry street.

The history of a great man, who did what came to his hand to do, and of whom it may truly be said that he has left behind him "footprints on the sands of time." All his life he was the same unaggressive, hardworking surgeon, delighting more in the advancement of his friends and students than in any honour to himself. This is the picture given by Dr. Adams of this Christian gentleman, and no one can read the history of his life without profiting thereby and having his ideal standard raised. The author speaks of his task as a "labour of love," and from the way in which he has performed it it seems to have been so. The history of difficulties overcome and trials passed is a valuable lesson to all and will afford encouragement to many who are weary with the heat and burden of the day.

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THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 3rd, 1893.

E. P. LACHAPELLE, M.D., FIRST VICE-PRESIDENT, IN THE CHAIR.

Cor Bovinum; Cardiac Failure; Myocarditis; Infarct of Posterior Coronary; Sudden Death.—Dr. ADAMI brought before the Society a case of heart disease presenting certain unusual conditions.

The patient, A. H., aged 35 years, a powerfully built man, had been engaged at a brewery and had been accustomed to lift and carry about casks of great weight, and at the same time, after the manner of his kind, to consume large quantities of beer—for the last three years he had taken from five to eight quarts daily. In October, 1892, previous to which time he had enjoyed excellent health, he was seized with dyspnœa when at work, succeeded by palpitation and great weakness. He stopped off work for a week and on resuming the symptoms had disappeared completely. About December 15th, again while at work, a similar sudden attack of dyspnœa came on, and again he was obliged to discontinue. For two days he had almost continuous dyspnœa, and then palpitation and prostration supervened, with some œdema of the lower extremities, and he was forced to remain in bed. There he remained until January 26th, when feeling somewhat stronger he got up for the first time and walked to the General Hospital, where he was admitted under Dr. Stewart. There was a good family history, and the personal history revealed no previous rheumatism, syphilis, chorea or other disease predisposing to cardiac lesions. There was no complaint of palpitation while the patient was in the hospital; the pulse varied from 68 to 100 and was irregular in volume and in rhythm; the arteries were thickened and not easily compressed. The apex beat was in the sixth interspace, $5\frac{3}{4}$ inches from mid-sternum and the vertical dulness began at the lower border of the third rib, the transverse began at the right edge of the sternum and extended $6\frac{3}{4}$ inches to the left. There were no murmurs to be heard. The urine contained no albumin on admission, but before death was loaded with it.

A diagnosis of myocarditis was made and the patient appeared to be improving slowly for a time, but for two weeks before death the dyspnœa became more severe and more frequent, finally becoming Cheyne-Stokes in character, and upon the morning of February 24th the patient died suddenly.

At the autopsy performed upon the following day there was found some anasarca of the lower extremities and slight œdema below the eyes. The lungs were greatly congested and œdematous, so that they only just floated; there were, as so frequently is the case in Montreal, evidences of old pleurisy. The liver was enlarged, fatty and congested; the mucous membrane of the stomach was also moderately congested: there were evidences of old peritonitis in the shape of adhesions. The kidneys were congested, the cortex enlarged and fatty, the capsules pealed off with some difficulty and the surface of the organs showed well-marked granular change; in both kidneys were several white infarcts surrounded by inflammatory zones.

The heart, however, showed the greatest departure from the normal. Upon opening the thorax it could be seen to be of great size. The apex lay ¼ inch outside the left nipple line and 2 inches below; the left lung was pushed upwards and outwards. The pericardial cavity contained more than 250 c.c. of fluid having a very faintly reddish tinge, but there was no recognizable sign of recent pericarditis, though there was a slight old and loose adhesion close to the apex of the left ventricle. All the cavities were greatly dilated, those of the right side contained fairly solid clot, those of the left a softer, more tarry coagulum. The heart weighed 690 grm., or just about three times the normal. It was a true "cor bovinum." There was no acute and but little evidence of chronic valvular disease. The pulmonary orifice measured 8.4 centimetres in circumference, the aortic 7.5, and just above the orifice there was a little early fatty degeneration of the intima of the aorta; the segments of both pulmonary and aortic valves were normal. The tricuspid orifice admitted the tips of four fingers, the mitral those of three; and in connection with this last valve the papillary muscles were greatly hypertrophied, the chordæ somewhat short and thick, as were also the edges of the cusps. The endocardium of the ventricles presented no

inflammatory change recognizable by the naked eye. The walls of all the cavities were hypertrophied; at the junction of the upper and middle third the myocardium of the left ventricle was 2.3 cm. across. The muscle substance could not be described as other than firm, but here and there it was perhaps a little paler than normal. Upon dissecting up the coronaries no endarteritis was found, but in one branch of the right coronary passing over the hinder wall of the left ventricle there was at the commencement of the lower third of the organ a red clot about half an inch long, and beneath this the myocardium was red and suffused with blood.

Unfortunately by mischance the heart and kidneys, having been taken from the post-mortem room to demonstrate to Dr. Stewart's clinic, did not reach the laboratory until twenty-four hours later, and then were in a condition far from satisfactory for study of finer details, so that I am unable to make any further statement than that the myocardium around the seat of the lesion of this coronary vessel was necrosed, that here and there were evidences of fatty degeneration in the heart muscle and that the fibres of the left ventricle were in general thin and smaller than normal. Some of the finer branches of the right coronary coursing on the surface of the left ventricle showed evidences of both acute and chronic endarteritis. There was no marked interstitial fibrosis, nor could any small celled infiltration be recognized.

This case, while presenting features which if relatively uncommon are capable of explanation, is beset with several difficulties. It is easy to find in the hæmorrhagic infarct of the left ventricle the cause of the sudden death. But what brought about the condition of this branch of the coronary vessel? The endocardium of the left side of the heart showed no lesion; the lungs presented no septic foci, they were simply the congested lungs of heart failure. There is no origin to be found for any embolic mass which would at the same time explain the infarctous condition of the heart and the older infarcts of the kidneys, and this being the case I am led to hazard that both conditions originated *in situ*.

Turning for a moment to the general state of the heart, the hypertrophy, the great dilation and the cardiac weakness. Here, it seems to me, we have an interesting series of events

which have led to the condition found at the autopsy. The patient had evidently been a most powerful man and had been accustomed to frequent great muscular exertion. This alone, as has repeatedly been seen in athletes, blacksmiths and others engaged for long continued periods in progressively advancing feats of physical strength, will lead to great hyertrophy of the heart, in fact, to the condition of "cor bovinum," and the organ may continue to do its work perfectly well for long periods under the great strain to which it is regularly subjected, although the tendency is often seen to be towards eventual failure. In this case we have to deal with sudden failure, and the explanation is not far to seek. Great exertion alone at times suffices to bring on what Latham has termed "heart shock," in which it would seem that the condition of over-strain and using up of the reserve force of the organ is followed by incomplete power of the organ to perform its normal functions subsequently under normal conditions—it has become dilated and cannot contract to the usual volume again, and with this there are all the signs of cardiac failure. But in a case like this before us, where the patient has been used to great exertion, something more, I think, has to be invoked to explain the suddenness of the failure, and that something is found in the excessive abuse of alcohol. As Professor Roy and I have shown experimentally, sudden or acute dilation of the heart may be brought about by injecting alcohol into the venous circulation, and as Dr. Graham Steell first pointed out to me, this condition of acute alcoholic dilation has been recognized clinically for some years, although it is not yet mentioned in the text-books. Given these two factors, physical exertion and the consumption of unlimited beer, acute dilatation may be safely prophesied as waiting upon hypertrophy.

In this condition we have all the elements requisite to set up a vicious cycle. When the heart muscle is in so enfeebled a state that, even when the patient is at rest, it cannot contract with each systole sufficiently to return the ventricle to its capacity in health, then the arterial blood pressure becomes lowered, the coronary circulation is weakened, the heart muscle fails to receive sufficient nutrition, it becomes further enfeebled—the heart becomes increasingly dilated. And it

may be that in this case we have not to do with either infarct due to embolus or thrombus due to endocarditis of the coronary artery, though this latter is a not impossible explanation, but to rupture of the weakened vessel of a degenerated area at some moment of attempted increased cardiac exertion, and that to this rupture is due the infiltration of the muscle immediately surrounding the vessel, the coagulum that filled it, and the sudden death from disturbance of the functions of even a few fibres of the heart muscle. For here it would seem that, just as in Cohnheim's classical experiment, sudden death has been brought about by stoppage of the circulation through one small branch of the coronary artery.

Dr. Adami regretted that Dr. Stewart was not present to throw some light upon the clinical history of the case. Cases of myocarditis unaccompanied by pericarditis or endocarditis were very rare, and he was sorry that the condition of the organ prevented him from making an absolute statement as to whether there were clear signs of inflammation having preceded the degeneration met with in this specimen.

Dr. Lafleur had some knowledge of the case. The patient came to the out-door department complaining of shortness of breath and palpitation, which had been going on for several weeks. He had been in the Hospital before with an attack of the same nature, and was discharged sufficiently relieved to return to his occupation. He described himself as drinking to excess, and engaged in an occupation that entailed very heavy lifts. At the time a diagnosis was made of probable myocarditis; it was made from the facts that there was dilatation and hypertrophy, without anything to attract attention to valvular lesions, no organic murmur, no history of antecedent disease which might have given rise to such a condition. The condition of the heart found at the post-mortem was particularly interesting; and he would like to ask Dr. Adami if the condition of commencing necrosis was strictly limited to the part about the supposed hæmorrhagic infarct, or whether it was generally spread throughout the muscular substance of the heart.

Dr. Adami, in answer to Dr. Lafleur, regretted to say that he could not be sure of the condition in various parts. While there was what might be partial necrosis in other parts of the

heart, yet he could not arrive at an exact statement; and all that could be said was that the heart substance showed a certain amount of fatty change, a certain amount of degeneration.

Excision of the Tongue.—Dr. JAMES BELL brought before the Society a case upon whom he had recently operated for the removal of the tongue. The whole tongue was removed on December 22nd by Whitehead's operation, which method consists in simply snipping the organ off with scissors. The patient was discharged on January 8th.

Dr. Bell related the history of another case, who, after operation, developed a mild pyæmia; and, although now fully recovered, was unfortunately not well enough to bring before the Society. An interesting feature, however, about this case was the mildness of the pyæmia. Twenty-four hours after operation he developed a slight swelling at the angle of the jaw, and later on swelling about the right trochanter.

Dr. ADAMI, exhibiting the specimens, said that both are well marked epithelioma. With regard to the second case, in addition to a perfectly typical epithelioma, it shows considerable infiltration and advancing condition into the surrounding muscle.

Removal of Pus Tube and Ovary with Adherent Vermiform Appendix.—Dr. LAPTHORN SMITH reported the following case: Mrs. S., age 35, married twelve years, no children, one miscarriage a year after marriage, since which she has never been well. She has had five attacks of pelvic peritonitis, which confined her to bed for several weeks each time. Her present attack came on one week before admission, when Dr. Reddy was called in and treated her with salines, with considerable benefit.

She entered the Hospital on the 2nd February, the temperature then being only 100.4°, but it fell to normal after a few days of the same treatment, with the addition of hot douches. The principal symptom was pain in the right ovarian region of a sharp and burning nature, the same as she had always had with these attacks. During the past eleven years, every menstrual period has been followed by severe pain across the lower part of the abdomen, coming on only in the morning, but disappearing towards evening. She has suffered from constipation as long as she can remember,

but she has never been troubled with her water an analysis, of which shows that it is normal.

By bi-manual palpation a hard swelling could be felt in the right inguinal region, which was firmly attached to the uterus about the region of the right cornu, and slightly movable with that organ. The induration extended all around the right half of the pelvis, but to a lesser degree; the whole of the swelling being very tender on pressure. The very hard mass was irregular in shape, consisting of several nodules, one of which was slightly fluctuating.

Diagnosis was made of pus tube and ovary matted together and bound down by old and recent pelvic peritonitis, the recurring attacks of which were probably due to leakage of pus from the tubes.

As no treatment would have been of any use unless it removed the source of the disease, namely, the pyo-salpinx, on the 25th February I performed coeliotomy, assisted by Drs. England and Geo. T. Ross, the patient being placed in Trendelenburg's posture. After the usual rigorous antiseptic precautions, the abdomen was opened by a four inch incision. The omentum was found to be adherent to the abdominal wall as high as the level of the superior spines of the ilium, but it was peeled off without great difficulty. The omentum was so firmly adherent to the pus tube that it was impossible to detach it; it was therefore tied in two segments and then *en masse*, and cut off. Great difficulty was experienced in enucleating the inflammatory mass from its bed of old adhesions, the process involving the rupture of the abscess cavity. From this about an ounce of ichorous fluid escaped, as well as about four ounces of straw-coloured liquid resembling urine, but which was found to have come from a portion of the peritoneal cavity walled off by adhesions. While enucleating, a portion of the mass broke off, and on withdrawing it I found adherent to it a long, thin, healthy looking cord, which could be drawn six inches from the abdomen. This cord was cut and held temporarily with a Pean forceps, to be examined and dealt with later on. The main mass, consisting of the tube and ovary, were then dug out, bringing with it a portion of the uterine peritoneum. The above mentioned cord-like tube was then carefully examined; it was found to be round, per-

fectly cylindrical, that is to say the same diameter at both ends, its interior lined with mucous membrane, but without any peritoneal covering. As it is quite common to find the veriform appendix adherent to the right uterine appendages, I at once declared this to be the appendix, but on drawing firmly upon it, instead of being able to trace it towards the cœcum in the right inguinal region, it led directly up towards the right kidney, disappearing underneath the intestine, which was matted together. · Some of the onlookers were convinced that this was the ureter. In order to mak sure that the bladder had not been torn, it was tested by the injection into it of a half-pint of boiled water, which did not come through into the abdomen, and which, on the contrary, flowed out of the natural channel unstained. The left tube and ovary appeared healthy, and were not removed. While examining them, several large lumps the size of pigeons' eggs were felt on the anterior wall of the rectum, beneath the peritoneum. One of them was lifted up to the incision and inspected, when it was seen to be yellow in color, resembling very much an enlarged cancerous lymphatic gland. The enlargement may, however, have been benign, and merely due to infection from the pus tube, although I have never seen anything like them before in this situation. The abdominal cavity was carefully washed out with four or five gallons of sterilized water, as hot as could be borne. which was paddled about among the intestines until it returned quite clean. The question now arose as to what was to be done with the cord which I believed to be appendix, but which was thought by several to be ureter. The patient was apparently in extremis, so that very little time could be spared in dealing with it. In case that it might possibly be the ureter, I thought the safest thing to do was to attach it to the lower angle of the incision, where if it were the appendix, being healthy, it could do no harm, while if it should prove to be ureter it would avoid the destruction of the kidney by hydronephrosis. This was therefore done, and the abdomen was hastily closed with through and through silkworm gut sutures. When placed in bed her prospects were not encouraging, but she soon rallied under enemata of beef tea and brandy. There was considerable abdominal distension, but this was relieved by repeated enemata of sulphate of magnesia and glycerine.

During the first twenty-four hours nothing whatever was given by the mouth; during the second twenty-four hours only a few teaspoonfuls of hot water; during the third twenty-four hours she was allowed two quarts of hot water, and during the fourth twenty-four hours three pints of milk and lime water, and so on in increasing quantities. The drainage tube was removed at the end of the third day. The further history of the case was uneventful. I show here the chart of the temperature, pulse and respiration. The highest temperature recorded was 99 4-5°, and the highest pulse 99, both on the fourth day.

The pleasure of seeing this patient making such a good recovery after so severe an operation compensates me for the anxiety I felt in the presence of so much doubt, caused by the unusual length and direction of the appendix. If I had been sure that this cord was the appendix, and if the patient's condition had warranted me in prolonging the operation, I would probably have removed it; but the leaving of the rest of the appendix which was healthy has not in any way interfered with the result of the operation, which effected its purpose, namely, the removal of a neglected pus tube and ovary, which had long been a menace to the patient's life and a barrier to her comfort.

The specimen was referred to Dr. Adami for a report upon its nature.

Two Cases of Appendicitis.—Dr. Bell showed two specimens which he had removed during the last ten days. One of these in itself answers a good many of Dr. Lapthorn Smith's questions. The largest part is the apex, and the smallest that nearest the cæcum. The apex was near the liver, and as he pulled it out he thought that he was pulling something wonderfully long. It was near the apex that it was diseased, so he was not particular about removing it close to the cæcum. It was removed for recurrent attacks of appendicitis. The first attack was one year ago last January, another attack in November last, and a series of attacks since then, never fully recovering from any of them and lasting until Wednesday week, when he was operated upon. It was clearly one of those cases of catarrhal appendicitis. The patient at first declined operation, and it was not urged. He went away, but being unable

to work returned with a sausage-like mass in the line of the ascending colon. There was no pus, nothing but adhesions, which made it difficult to separate the swollen point of the appendix.

The other specimen was removed last night at 10 o'clock. It shows a gangrenous appendix. It is one of the earliest operations he had any knowledge of. The patient went to his work on Wednesday morning; some time during the morning was attacked with a pain in his side. but worked all day. He sent for a doctor during the night and was operated upon before 10 p.m. the following night—within 36 hours from the time of his first symptoms, and 24 hours after leaving his work. The middle portion of the appendix was quite gangrenous, but there was no pus about it. it was the separation of the adhesions that caused the gangrenous portion to give way. It lay curled up behind the ascending colon and was gangrenous in its middle portion. No concretions were found.

Both patients are doing well, but the patient from whom the first was removed contracted a pneumonia, from which he has recovered.

Dr. J. Alex. Hutchison said that he had assisted Dr. Armstrong in an operation for appendicitis that was almost, if not quite, as early as Dr. Bell's second case. The first symptoms were on a Friday morning, and the operation was performed on Sunday at 7 a.m. A gangrenous section was removed, and the man died three hours afterwards.

Rapidly Growing Ovarian Cyst.—Dr. Wm. Gardner gave the following history: The patient, a woman between 40 and 50 years, some time past the menopause, had suffered from enlargement of the abdomen and pain for a year or so. The peritoneal cavity obviously contained fluid. The hand easily detected a very movable firm tumour easily recognizable as independent of the uterus. At the operation peritoneal fluid escaped, and the tumour was delivered with very little difficulty. The interest of the case is that it is a multilocular growth, of the nature of which Dr. Adami will tell us. It was at once obvious that the large anterior cyst had ruptured, and the fluid had escaped into the abdominal cavity. There was an attempt to repair on the part of the cyst, and parts of the edges were atheromatous. There was also a patch of ad-

ventitious membrane around this region. What excited his suspicion was the fact, which was insisted upon by the patient, of frequent variations in the size of the abdomen. The course of recovery was perfectly smooth.

Dr. ADAMI briefly described the tumour as a rapidly growing ovarian cyst. It varied in its density in various regions. There is a large anterior cyst which had burst. Besides this there is one region that contains a large number of completely recognizable cysts lined by epithelium with mucoid contents, and another region in which there are much smaller cysts recognized by the microscope, and which is a much more solid portion. It is characteristic of the multilocular ovarian cyst in its various appearances. There is not much evidence of papillomatous growth into the cyst cavities.

Masked Tuberculosis.—Dr. W. S. MORROW read a paper on this subject, which appeared in the May number of this journal

DISCUSSION.

Dr. BLACKADER said that there was one fact that Dr. Morrow did not bring out, that is the association of anæmia with tuberculosis. This was pointed out in a very careful paper read last year by Dr. Richford at Cincinnati. In a great number of careful enquiries among a large number of children, characterized by pallor and anæmia, with lessening of the number of red blood corpuscles, he found that in the great majority this condition was associated with tuberculosis in the family. More than that, in a number of members of the same family quite a number might die of phthisis, yet one or two members of the family would be exposed all the time and they would not contract it, yet they were looking pallid, anæmic, with evidence of what one would suppose might constitute them fit subjects for the disease. How was this? How is it that they resisted the invasion of tuberculosis? It was suggested that there was a certain amount of tubercular condition of the internal glands, which to a certain extent afforded immunity for the time being from tubercular affection in the pulmonary organs. How far this answer is correct is very uncertain, yet it appears worthy of consideration.

Dr. F. W. CAMPBELL said that he knew of no subject to-day so full of interest as tuberculosis. It is unfortunately an ex-

ceedingly common disease, and it is a good thing now that we have recognized the fact of its being a contagious disease. He pointed out that the great majority of tubercular people carry in their faces the signs of tuberculosis. Another point is the extraordinary prevalence of tuberculosis after accouchments. Those who have very large experience with life insurance will be able to appreciate this fact. When you get a history on a life insurance paper of one, two or more members having died in accouchment, an investigation will often reveal that these sudden deaths were due to tuberculosis, and this in spite of the absence of any trace of tuberculosis in the family.

Dr. LAFLEUR was pleased that Dr. Morrow had mentioned the Ehrlich's reaction of the urine. There is a general impression that it refers solely to typhoid. It had been his experience that it is very apt to be found in tubercular cases. There is one other little point in the paraphernalia of diagnosis that might have been touched upon, viz., the examination of the blood. In those cases where there are chills it is extremely important to exclude malaria by an examination of the blood. In tuberculosis the examination will show one thing very constantly, viz., increase of the white corpuscles. This is said not to occur in typhoid fever, and therefore it might serve to separate a case from that disease.

Dr. WM. GARDNER said that his experience in abdominal surgery bears out to some extent the points mentioned by Dr. Morrow. When one has not much experience, and sometimes when one has a great deal of experience, he will open the abdomen for something else and find tuberculosis; with increased experience he would be more ready to suspect such a condition, and one should always have in mind the possibility of tuberculosis.

Dr. H. S. BIRKETT very frequently has cases referred to him where the only symptom is a slight cough, and where the physician in attendance is quite sure there is no sign in the chest to account for it; yet these cases often afterwards develop the physical signs of pulmonary tuberculosis. Such cases may often be diagnosed at the very outset by an examination of the throat. The pharynx viewed under a bright light, something brighter than sunlight, will be seen to be quite anæmic, and it is found from experience that this

marked anæma of the pharynx is often the only indication of an incipient phthisis.

Dr. J. B. McConnell asked if Dr. Morrow had examined the intensity of the heart sounds as an indication of disease of the lungs. He has noticed that in cases where the lungs gave no clue to the cause of the trouble an accentuation of the second pulmonary sound may be detected, and this should often lead us to suspect pulmonary tuberculosis where there were no other symptoms.

Dr. Kirkpatrick related the history of a child eight years of age. There was a suppurating gland in the groin which was to have been scraped out. The operation was postponed for a few days. In the meantime resolution set in and the abscess disappeared. Very shortly afterwards tubercular meningitis set it, and the child died in about two weeks. Probably had the absess been dealt with antiseptically in the first instance, as was intended, the child's life might have been saved.

Dr. Morrow, in answer to Dr. McConnell, said that he had no record of the nature of the pulmonary second sound in the cases he had reported.

Report of the Committee on Infectious Diseases.—Dr. J. C. Cameron read the report (appeared on page 790 of this journal). Continuing, he said that the course recommended by the Committee was, if the report was adopted, that a deputation wait on the Mayor, who is thoroughly with us in this matter, and he will introduce the deputation to the Council, and the report will be presented. After this it is proposed to print the report and publish it through all possible channels, in order that public opinion may be awakened to the importance of the subject.

Dr. Lachapelle, before putting the question, desired to say that he quite agreed with every part of this report, and that as a sanitarian he was glad to see this Society so actively alive to the interests of the public health. He wished that all physicians were actuated by the same public spirit, especially as to the reporting of cases of contagious disease, and this, he regretted to say, is not always done. If the Provincial or any other Board of Health is to do anything they must have

the information, the physicians must report their cases. Of course there are some prejudices against the practice, but the physician who knows better should not pander to them at the public cost. Moreover, if everyone reported his cases there would be no trouble; it would take but a very short time for the public to be reconciled to the inevitable, and everything would then run smoothly. So far as the appointment of a properly qualified person for bacteriological examination as an aid to diagnosis is concerned, he said that the Provincial Board of Health is fully aware of the importance of that step, and is willing and is now specially working to obtain from the Government the authority, the money, and especially the room for the establishment of such a laboratory. He said, further, that the Government seems very well disposed to do their duty in this respect.

The report was adopted, and the Vice-President requested the same committee to act as a deputation to the City Council.

Stated Meeting, March 17th, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

E. C. Feilde, M.D., of Prescott, was elected an ordinary member.

Dystocia Due to Hydrocephalus.—Dr. D. J. EVANS read, for Dr. Schmidt and himself, the report of the case, and exhibited the specimen. (Page 115).

A Case of Pernicious Anæmia.—Dr. ADAMI read the history of the case, as follows:—It is far from my intention to-night to detail fully the various points of interest in connection with the case of pernicious anæmia that I bring before you now; but it is necessary that I should recount the broad outlines of the history of the disease in the patient, and of the conditions found at the autopsy.

The patient, A. H. C., aged 52, was admitted into the General Hospital upon February 8th, 1893, under Dr. Stewart. In March, 1892, the patient noticed his increasing weakness. This was accompanied by numbness and tingling of the feet and slight swelling of the lower extremities. With this there was increasing pallor, and he entered the Montreal General Hospital in August of last year, the diagnosis then given

being pernicious anæmia. However, during the five weeks of his stay the patient improved in health to such an extent that some doubt was felt as to the correctness of the diagnosis; but even upon leaving the Hospital, in September, the number of red corpuscles per cubic millimeter was only 2,365,000. The patient neglected treatment after his departure, and after a few weeks fell back again in health.

On re-admission, in February, the number of the red corpuscles had sunk to 700,000; the percentage of hæmoglobin had fallen to nothing like the same extent, there being an actual increase of 23 per cent. per corpuscle. The patient now was very prostrate, and the progressive asthenia ended in death upon Feb. 21st. There had never been any hæmorrhage or diarrhœa, and vomiting only occurred twice, and on both occasions after taking arsenic. There was a soft blowing systolic apex murmur; the heart sounds, however, were strong.

At the autopsy, which was performed a very few hours after death, the cardinal appearances of pernicious anæmia were made out. There was the typical canary colour of the skin, and the persistence of subcutaneous fat in fair quantity, despite the extreme anæmia. The liver was rather enlarged, and of a more reddish or orange tinge than usual. The kidneys enlarged, pale and friable. The walls of the stomach were somewhat thinned and pale, while the bladder was distended, containing considerably over 500 cc. of dark, amber-coloured urine. The pancreas was firm and normal. The stomach was free from any ulceration or malignant growth, and the only noticeable point with regard the alimentary canal in general was its anæmic condition and the thinness of its walls, but the thinness was not extreme. The lungs were anæmic, but otherwise normal. There was an increase in reddish-purple bone marrow in the sternum and lower vertebræ. The condition of the heart was worthy of note. All the cavities were in a state of extreme dilatation. The right auricle was filled partly with a thin fluid blood and partly with a soft clot. From this cavity more than 300 cc. of the fluid blood was removed for future examination. The aortic and pulmonary valves were competent; the tricuspid and the mitral somewhat thickened at the edges, the latter the more so.

Portions of the spinal cord were removed, but are not as

yet sufficiently hardened to be examined microscopically. This was done in view of the recent observations that have been made regarding certain changes in the cord in connection with pernicious anæmia. Some blood taken from the heart was submitted to Dr. Ruttan for chemical analysis. In this case an analysis of the serum has been made for the first time in pernicious anæmia, and it is interesting to note that the proteids of the plasma have been altered in their relative proportions.

Chemical Analysis of the Blood Serum, by Dr. Ruttan.— The clear, almost colourless serum from this case of pernicious anæmia had a specific gravity of 1026.1, and carried only 5.2 per cent. of proteids by weight. These proteids consisted of 2.3 per cent. of globulins, precipitated by saturating with magnesium sulphate, and 2.9 per cent. of serum albumen proper. There was 0.875 per cent of ash. It will thus be seen that not only are the total proteids reduced about 40 per cent. below the average normal quantity, but the normal ratio of the globulin to serum albumen is considerably altered. The ash is also about 20 per cent. above normal.

Determination of the Iron Contained in the Liver Tissue.— The total quantity of iron found in the liver was 0.2423 per cent. by weight, calculated to the fresh undried tissue. This was found to be equivalent to about 0.72 per cent. to the dried tissue.

In connection with these analyses, I would point out the fact that we have here very evidently a considerable change in the blood serum going hand and hand with the change in the red corpuscles. If this case can be taken as typical (which certainly it was in its progress, although the distended condition of the heart at the autopsy was unusual), then we learn that in this disease the serum becomes much thinner, containing more than one-third less proteids, and that in this diminution of the proteid constituents the serum albumen sinks rather more than does the globulin, for in 100 parts of normal blood there are 8 or 9 parts of proteid, and of these 3 to 4 consist of globulins, the rest being serum albumen. With reference to the iron in the liver, I may say that normal dried liver tissue, freed from blood, contains about 0.1 per cent. of iron. Here we have seven times that amount. This is in

keeping with the results of Quincke and others, who in advanced cases of this disease found 0.6 to 1.0 per cent. present.

Dr. BLACKADER wished to know if there is any record of the results of the microscopical examination of the blood during the patient's stay in the Hospital.

The PRESIDENT, in answer to Dr. Blackader, said that the usual changes had been present and observed. Arsenic had at first a marked beneficial effect. When admitted in August, a diagnosis of pernicious anæmia had been made from the man's appearance, examinations of blood, etc. He was put on arsenic, and in a few weeks his condition had so far improved that the diagnosis was doubted. He (Dr. Stewart) thought the man was well, and as such had him discharged from the Hospital. A few weeks afterwards he returned with undoubted symptoms of the disease again manifesting themselves, and there was little or no improvement following treatment on this second occasion. Still, the clinical symptoms on the first admission were quite as characteristic of pernicious anæmia as on the second. This shows that clinically there are no characteristic symptoms of the disease. The usual changes in the blood corpuscles which are described are not really characteristic, as they can be found in other conditions. In fact, it is doubtful whether there is any definite change in the blood which can be considered diagnostic of disease.

Dr. MILLS considered it fortunate that this case has been reported on chemically. From regarding, as we once did, the blood as the source of all evil, we have gone to the opposite extreme of attributing too little power to it as being the seat of disease. The plasma itself has been too long left out of account as a factor in the pathology of the blood, and yet it is very questionable if there is ever any very great modification of the cells without a corresponding modification in the plasma. The attention of clinicians is so drawn to the corpuscles that this part is neglected. He asked if there had been any microscopic examination made of the cells and tubules of the stomach, for in a discussion reported some time ago from Philadelphia, in regard to pernicious anæmia, some cases were cited in which the glandular portions of the stomach had actually atrophied, so that gastric digestion was necessarily very much interfered with.

Dr. Smith wished to know if in this case there was very much enlargement of the spleen.

Dr. Elder asked if evidence of malignant disease of the intestines had been present, would the case still be called one of pernicious anæmia? He further wished an explanation as to the quantity of blood found in the heart. Usually there is very little blood found in the heart after death from this disease, but in this case there seems to have been a good deal

Dr. F. W. Campbell asked what was the general condition of the arterial system, for narrowing is supposed to be one of the causes of this disease.

Dr. Gurd inquired if the unusually large amount of iron found in the liver in such cases had been proven to be due to the large destruction of corpuscles, or if it might not be due to the practice of administering iron in anæmia.

Dr. Adami, in reply, said that there was a certain amount of atrophy found on examination of the stomach tubes, but the change was a very slight one, nothing like that usually met with. The spleen is never very much enlarged in pernicious anæmia. There are some cases in which the iron has been found to be increased in the spleen, but there is never that heaping up of it found in the liver.

The question of connection between pernicious anæmia and cancer is often a really difficult one to answer. The greatest authorities include a large number of cases of cancer in pernicious anæmia. Here comes the difficulty, whether we ought to speak of the cancerous cachexia as a pernicious anæmia? In the advanced cases of the cancerous anæmia there can be hardly any distinction made between it and pernicious anæmia. Many cases of cancerous anæmia it is impossible to diagnose during life, and it is only in the post-mortem room that they can be recognized as other than the idiopathic pernicious anæmia. Perhaps this difference now found in the blood plasma may yet be of diagnostic importance in this respect.

With regard to the condition of the heart, this certainly is a remarkable case. There seemed to be a large amount of blood in the whole arterial system, not only in the heart, but in the thoracic and abdominal aortas. In fact, one has here the impression that there was present a certain amount of hydræmia. This is a remarkable point not generally observed, but one

well worthy of notice. In this case, however, the autopsy was made a short time after death, whereas in other cases where the interval is longer it is conceivable that the heart might contract, and by so doing force the blood into the arterial system.

Lastly, as to the question of the cause of the accumulation of iron in the liver, it is generally accepted that this iron is derived from the breaking down of the blood corpuscles. In a very large number of these cases no iron has been given for months previous to death; no iron was given in this case. Also, it is found in experimental physiology that the administration of drugs which cause a destruction of corpuscles is followed by an increase in the amount of iron in the liver. From these and other similar considerations one is forced to the conclusion that this iron is derived from the breaking down of the red corpuscles.

Specimen of Appendix.—Dr. ADAMI stated that he had examined a section of the tube exhibited by Dr. Smith at the last meeting, and described the appearance of the section, which was seen to be that of appendix rather than ureter. He also cut a section of ureter, and had both present for comparisod, when the different characteristics of each might be readily appreciated.

Dr. ENGLAND wished to make a few remarks on this most interesting case. The tube which Dr. Adami has examined and proved to be appendix was certainly a very peculiar appendix. At the time it looked very like the ureter, it was certainly a long ureter like looking tube, six or seven inches in length, taking a direction upwards and to the right, apparently going beneath the liver. The other end of this tube disappeared into the mesentery in the midst of a lot of inflammatory tissue in which there were hard nodules. Now, the explanation simply lies in this, the part attached in the inflammatory mass must have been the proximal end of the tube, the distal end being attached in the higher region near the kidney. The tube also was a very small one to be appendix; it certainly was not larger than a goose quill. Then the condition of the woman did not allow of much time for deliberation, there being some doubt as to whether she would leave the table alive. The bladder, however, was filled with water,

to see if it appeared in the abdominal wound, which it did not do.

Multilocular Ovarian Cyst.—Dr. Lapthorn Smith brought before the members a small multilocular cyst, which he had removed from a patient recently. It was sunk right down in the Douglas sac in the middle line, and consequently was excessively painful in coitus, defæcation and locomotion. The case had been under his observation for one month, and in that time the tumour had doubled in size, so probably had it gone on it would have become quite a large tumour in the course of time. There was a large cavity inside which was filled with a very thick glue-like material.

Discussion on Tuberculosis.—Papers read by Drs. McEachran, and Adami appeared in the May number, and by Dr. Blackader in the July number.

NEW YORK ACADEMY OF MEDICINE.

Section on Orthopædic Surgery.

Stated Meeting, April 21st, 1893.

W. R. Townsend, M.A., Chairman.

The Prehensile Toe.—Dr. Royal Whitman presented a case, one of several he had seen, in which he was uncertain whether the condition was a mild form of club-foot, or a reminiscence of a more primitive type. The peculiar feature was the long prehensile great toe, provided with muscles which moved it in every direction. Attention had been first directed to it in this case when the mother attempted to have shoes fitted to the child's feet.

Dr. R. H. Sayre said he had seen a much more aggravated form of this condition, in which there was a very prominent "thumb" which interfered with walking, and the child also had supernumerary toes which were twisted in various directions.

Dr. A. M. Phelps considered the case presented one of simple varus, with shortening of the abductor pollicis and plantar fascia. The deformity could probably be remedied by stretching and manual manipulation under ether, and the foot then put in plaster of Paris.

Dr. Whitman said this treatment might be effective, but he

did not consider this case one of *simple* varus, as the deformity was not at the medio-tarsal joint, but in front of it.

Congenital Dislocation of the Hip.—Lorenz Operation.—Dr. V. P. Gibney said that on October 28th, 1892, he operated on a boy five years of age, who had an anterior congenital dislocation of the left hip. His general condition at the time was excellent. There was some slight elevation of the pelvis, one and a half inches of apparent shortening, and one inch real shortening, with one inch atrophy of the thigh, but none of the knee or calf. The greatest traction which the patient could bear only reduced the shortening by one-quarter of an inch. On the right side the distance from the trochanter major to the anterior superior spinous process was three inches, and on the left side two and a half inches. The trochanter was only half an inch above Nelaton's line. While one assistant made traction and abduction of the limb, and another made counter-extension by means of a flannel bandage at the perineum, subcutaneous myotomy was made of all the abductor tendons and of other points within reach. By flexing the thigh the muscles attached to the tuber ischii were brought into prominence and were then divided subcutaneously through a second punctured wound. Then firm traction and abduction brought the limb down until it was of the same length as its fellow. An incision about three inches long was then made, extending from the anterior superior spinous process in the vertical axis of the limb, exposing the fascia lata. On cutting this fascia transversely the tensor vaginæ femoris and sartorius muscles were exposed, and on retracting these the capsule of the joint was exposed. It was divided anteriorly, thus bringing into view the head of the bone, which was somewhat flattened. On cutting away the long ligamentum teres the acetabulum was found to be very shallow. A cup-shaped depression was gouged in the acetabulum, the head of the bone placed in this, and the wound drained and closed. An antiseptic dressing was applied, and the limb put up in plaster of paris in extension and abduction. The boy reacted well to the operation, and in December, when the plaster was renewed, there was found to be one-fourth inch shortening, but the movements in all directions were good and painless. On December 24,

when the plaster was again changed, it was found that the head of the bone would slip out of the acetabulum on very slight provocation, and from this time on it became very difficult, even with the aid of various splints, to keep the bone in place. On April 17 he died of diphtheria, and at the autopsy the left leg was found markedly rotated outward and shortened, the trochanter major being half an inch above Nelaton's line. The head of the bone was dislocated forward and rested firmly in the socket below the anterior superior spine of the ilium, where it was held in place by firm adhesions anteriorly, in the line of the original operation incision. At the new articulation the head was eroded, the angle of the neck was depressed, and the depression made at the time of the operation had been entirely filled up with tissues, which seemed to consist partly of bone and partly of cartilage. It was evident that any attempt at complete reduction into a normal acetabulum would have been attended by a complete rolling in of the limb and of the leg, so that a subsequent osteotomy would have been required. The rime of the pelvis, on which was located the anterior superior spine, was found to form an effectual bar to the slipping up of the bone during walking, and it was evident that although the limb was not in the new acetabulum, as expected, for practical purposes the newly formed joint was more useful than a poorly formed one on the dorsum of the ilium, and that although there was some slight motion upwards, it was not equal to that obtained in the old and imperfectly formed acetabulum.

Hoffa's Operation.—In connection with this case Dr. Gibney also reported a case in which Hoffa's operation had been performed by Hoffa himself at the Hospital for Ruptured and Crippled, in the presence of a number of distinguished surgeons. Dr. Hoffa considered the case an excellent one for the operation, which was done on September 28, 1891, the patient being a girl two and a half years of age. The limb was held flexed at an angle of about 145°, while a straight incision about three inches long was made in the line of the femur in such a position that the tip of the trochanter major was at its centre. The incision was carried through the glutei muscles in the line of their fibres, and a split made in the capsule of the joint corresponding in direction and length with the ex-

ternal incision. The ligamentum teres was divided with curved scissors, and the head of the bone made to protrude through the opening in the capsule. The muscles attached to the trochanter major and minor were divided through the same opening. The upper part of the acetabulum was scooped out to the depth of nearly three-quarters of an inch, the joint thoroughly flushed with sterilized water, and the head of the bone placed in this newly formed acetabulum. It was then found that the limb could be brought down parallel with its fellow without throwing the head out of the cavity. The wound in the capsule was closed with catgut suture, the external wound filled with iodoform gauze, and a bichloride dressing applied. While traction was made, a plaster of paris spica was then put on from the ankle to the lower border of the ribs. The child bore the operation well, but four days later the temperature was 104°, and the next morning 103.6°. It did not reach 100° until October 19th. Up to November 5th, when the child was discharged, there was a fluctuating temperature and suppuration of the wound, and efforts were simply made to keep the limb in good position and to stimulate the child. The wound did not heal until the middle of December. For about two months there was paralysis, limited to the region and muscles supplied by the branches of the sciatic nerve. During this period a hip splint was supplied. On April 11, 1892, it was noted that the paralysis had disappeared, and the child was still wearing the brace. She could move the toes and raise the limb easily from the table. There was limited motion at the hip, knee and ankle. The trochanter was then below Nelaton's line, and apparently a little further forward than on the right side. About November 1st the child was etherized and adduction overcome by manual force, and the limb put up in a position of abduction. On January 26, 1893, there was found to be some shortening of the tendo achillis, and the foot was in a position of moderate valgus. She could flex to 90°m and extend to 175°; the abductors were quite tense and resistant. An examination made on April 21 showed the great trochanter above Nelaton's line, a moderate degree of adduction and one inch shortening.

An Old Ununited Intra-Capsular Fracture of the Femur Treated Successfully by Operation.—Dr. Willy Meyer pre-

sented a man, thirty-nine years of age, whom he had first seen last November, at which time he gave a history of having fallen ten months previously from a height of sixteen feet and striking on his feet. Since that time he had been unable to walk, and he evidently had not been treated for any special diseased condition. He was limping on two crutches, and was just able to touch the floor with the tips of the toes on the affected side. The leg was turned outward, shortened and greatly atrophied. The great trochanter was at least three inches above Nelaton's line, there was outward rotation, and on traction the leg could be drawn down a good deal. Then crepitation was felt; there was evidently an ununited intra-capsular fracture of the neck of the femur. Dr. Meyer decided to perform arthrotomy of the hip and determine the exact condition. If the head were found to be movable in the joint, and on scraping the surface it bled, an attempt would be made to unite the neck to the head; otherwise it would be simply excised.

The operation was done on December 2, 1892, at the German Hospital. Langenbeck's slightly curved incision was employed, and on entering the joint a fracture was found to be entirely intra-capsular and the capsule greatly enlarged. Both fragments were found to be united by long connective tissue. The neck had fractured from the head at the base of the latter, and the entire circle of the head was freely movable in the acetabulum. On cutting away the adhesions between the two fragments, it was found that both the surface of the head fragment and that of the neck fragments was concave. The angle between the shaft and neck also seemed to be less oblique than normal. On scraping the head fragment it bled over its entire surface, so it was decided to unite the head to the shaft by nails, and accordingly the periosteum was stripped down and the bone chiselled away so as to make a convex surface on the neck fragment. Long screws not being at hand, Wyeth's nails were employed. They were introduced from the trochanter through the longitudinal axis of the neck into the head. The first nail broke at the surface of the bone; the second, on removing the handle, also broke, but inside of the bone. The steel evidently was very poor. Although carefully sterilized, these nails could not be left *in situ*. So

the bone was chiselled away in the shape of a small funnel so as to get at the broken end of the nail. The latter was then partially extracted to admit of its easy removal subsequently. Two drainage tubes and some iodoform gauze were inserted, and an antiseptic dressing, adhesive plaster and extension splint applied. The next morning the patient was in collapse as a result of a free and continuous parenchymatous bleeding from the porous, atrophied bone. Saline and stimulating enemata did not help, nor a hyposermoplysis of 800cc. saline solution. But after an intra-venous injection of one quart of salt water he was very much better, and from that time recovery was steady. The nails were removed at the end of eight weeks, and at the end of the tenth week he was allowed to get up and go around on crutches. The shortening before the operation was 3¼ inches, and it is still 1½ inches.

The speaker was of the opinion there was bony union, but when the patient was shown to the Surgical Society some of the members thought there was no bony union, but a very close adhesive union. The removal of so much bone from the neck, the changed angle, and the atrophy of the muscles, however, probably accounted for any defect in motion. The latter was actively as well as passively quite free. The man now easily walked with one cane. He could also walk without any support.

Dr. R. M. Phelps said that Hoffa had reported 16 cases, all of them successes. If his operation proved to be successful once in fifty times it was an improvement on anything now known, for, so far, there had not been a single case in which a congenital dislocation of the hip had been cured by any instrument known. Hoffa's cases, however, should be examined five years after the operation. He was of the opinion that in congenital dislocation of the hip the acetabulum is not always absent, but is almost always deformed. A specimen presented by him in Washington showed that the pressure of the head had caused the deformity of the acetabulum. If Hoffa's operation had been performed a good socket would have been formed. Where the head and neck are absent, as sometimes occurs, any operation short of complete excision and a gouging out of the acetabulum would surely fail. In the case just presented suppuration unfortunately occurred; it

was really a case of hip joint disease following Hoffa's operation and the accidental infection of the wound. He had made the best possible use of all known instruments for the treatment of this condition, but he had not yet seen any case cured, and very few had been benefited materially. In every case the limb had shortened up. Where the joint is firm he would not think of operating. In fractures of long standing, in some cases of hip joint disease, it is possible by long traction in bed to succeed in pulling the limb down.

Dr. S. KETCH said that he did not think we should accept any of the cases reported by Hoffa as unqualified successes until a suitable time had elapsed and examination had shown them to be actual cures. He had had no personal experience with Hoffa's operation, but he would not think of advising this operation until we know more about it than at present. It is a good operation theoretically, but whether the new acetabulum will hold the head of the bone after exposure to the traumatism of walking is still an open question.

Dr. WHITMAN said that the relation of the femur to the shaft should, if possible, be ascertained before operation; for if, as in the case reported by Dr. Gibney, the neck was twisted forwards, an osteotomy of the shaft would be necessary as a secondary operation, in order to rotate the leg outwards to its normal position. He was in favour of the operation, and thought it should be performed as early as possible. The new acetabulum should be made large and deep, the head of the bone held firmly in position, and sufficient pressure applied to restrain the new bone formation which might obliterate the artificial acetabulum, as in the case under discussion.

Dr. MYERS said he thought most surgeons had very little notion of how large an acetabulum could be made. A number of experiments on the cadaver had shown him that it could be made of very considerable size. One should avoid making too much traction, as there is no use in putting the head of the bone in the acetabulum and then pulling it out again. This tendency of the head to slip out can be prevented by considerably abducting the limb. He thought the operation of Lorenz more scientifically correct and easier to perform. Two deaths had been reported from Hoffa's operation.

The CHAIRMAN, referring to Dr. Willy Meyer's case, said he

could not see how there could be such perfect motion if only fibrous union existed. The four cases he had treated mechanically had all proved failures. He had seen nothing like the result exhibited in this patient, and although when traction is made on the limb there is a slight slipping of the soft parts, he did not think this indicated fibrous union. It seemed to him that the slipping was about equal on both sides of the body.

Dr. R. H. Sayre thought there was undoubtedly more mobility in the joint operated on than on the other side; for, on holding the pelvis still, there is a distinctly larger area of motion on the injured side. This, however, might be due to atrophy of the head, or to the amount of bone removed. In any case the limb is practically very useful. In his opinion an operative procedure in patients of this age, or even older, is much better than the usual let-alone treatment. He was particularly interested in the statement about vascularity of the head, as this would seem to indicate that when these cases are seen early, by proper treatment they can be made to unite without operation. It is evident that in many cases the vascular supply to the head of the bone is quite sufficient to afford nourishment, whether or not it was limited to the ligamentum teres, as had been stated. Many cases had been reported of union by simply securing proper apposition and immobilization for a sufficient length of time.

Dr. Whitman said that as there was three inches shortening before operation, the neck could not have been in contact with the head. He thought all must agree that the union in this case was firm, and that although the motion was limited, it was equal in all directions and the result was very satisfactory.

Dr. Meyer, in closing the discussion, said that if careful mechanical treatment had been tried and union not obtained within a reasonable time he would then operate. He had been surprised at the vascularity of the head in his case, and at the great atrophy and fatty degeneration which had taken place in the shaft fragment, which had been so marked that the nails passed through the bone almost as if going through wax. Another point of interest was that there had been no adhesion whatsoever between the head of the bone and the acetabulum.

The Elements of the Early Differential Diagnosis of Pott's Disease.—Dr. Royal Whitman read a paper with this title.

Dr. A. M. Phelps remarked that one important point in the differential diagnosis was that in wry-neck the face is turned away from the contraction, whereas in Pott's disease the face is turned towards the contraction.

Dr. S. Ketch said that long ago Dr. Shaffer in his work on Pott's disease referred to this peculiar condition of the sterno-cleido mastoid muscles, and also to the diagnosis of the location of the disease, viz., that in cervical disease high up there is an interference with the function of rotation, and in disease of the lower cervical region there is interference with extension and flexion. The speaker called attention to the remarkable apathy exhibited by the laity regarding the deformity of the spine. A case in point was that of a child who was brought to the clinic for ankle joint disease. In the course of the examination the father remarked that the child had had a stomach ache for a long time, and following the usual rule to examine the spine under such circumstances, he found a very large kyphos. The father had never noticed this before, and although the child had been under the care of a physician because of the stomach ache, no examination of the spine had been made.

Dr. L. W. Hubbard said that a few weeks ago a child, the only one of very respectable parents, had been brought to him with a very marked deformity of the spine, extending from the sixth to the eighth dorsal vertebra, yet the mother had only noticed it two weeks before. Many of the symptoms referred to in the paper were present, and this case had also been under the care of a family physician for some time. The speaker emphasized the importance of the muscular conditions found in connection with Pott's disease, and called attention particularly to the early presence of psoas contraction in disease of the lumbar region—even before abscess is present. He had never seen the least rigidity of the lumbar spine due to Pott's disease in which there was not marked psoas resistance on one side or the other.

Dr. R. H. Sayre thought the paper most excellent. He had noticed in certain cases of disease of the first and second cervical vertebra that instead of being relieved by lying on the

back, and slight traction being made, the reverse was the case, the child being compelled to sit in a chair, leaning its head against a pillow, because of the feeling of fright and dread whenever it attempted to lie down. This was probably because the disease was between the odontoid process and the front part of the atlas, and lying with the head back brought together the inflamed surfaces and increased the pain and spasm. He had also seen disease in this region where the face was not turned towards the contracted muscle, but was twisted away from it, because the other muscles happened to be contracted also. He had not always found rachitic curves "quiet out" when the child was in the prone position to such a degree as the author had described, because in some children there is an acute arthritis in various parts of the body. He had seen these angular distortions remain rigid, just as in tubercular angular deformity. In small children he had not observed anything but the spastic hemiplegia of which the author spoke, but in older children and in adults he had seen an ataxic form of hemiplegia without spasticity, and not until afterwards was the kyphos and typical Pott's disease noticed.

Dr. PHELPS said he could not understand how in the case of wry-neck the face could be turned towards the contracted muscle—it is a purely mechanical problem.

Dr. MYERS said that he had seen several girls about sixteen years of age in whom the lumbar spine was very prominent and slightly rigid, and he had been uncertain whether or not there was true disease of the spine. These girls were engaged in doing needle-work, and they sew much of the time with the head thrown forward.

Dr. A. B. JUDSON referred to a small group of cases in which wrong diagnoses had been made, or unnecessary alarm excited by projecting vertebræ between the fifth and ninth dorsal. In this region the spinous processes are extremely long and project downward in a direction not very far from vertical when the patient is erect; but when the patient stoops, even in a slight degree, these long processes approach the horizontal and make a row of projections which are rather alarming at the first glance. The cases which he had collected occurred in girls at or soon after the time of rapid growth, when the attitude is apt to be stooping and the skeleton is not well cov-

ered with fat. Any doubt about such a case is at once dispelled when it is noticed that the natural curve of the spine in this region is not broken into two curves meeting at an angle, as in incipient Pott's disease, and by recalling the peculiar vertebræ referred to.

Dr. WHITMAN, in closing the discussion, said that the distortion of the head in the early stage of Pott's disease was caused by the contraction of certain muscles, and by the shape of the articulating surface of the vertebræ.

Simple wry-neck was not unfrequently caused by contraction of the lateral and posterior muscles of the neck, the sternomastoid being unaffected. In such a case the pathognomonic sign mentioned by Dr. Phelps would be misleading. The diagnosis was rather to be made on careful history, grouping of symptoms, and on the anatomical relations of the parts involved. The position of the head was often suggestive, but not always the important diagnostic sign.

Selections.

Embolism of the Popliteal Artery following Diphtheria.—Rooney (*Occidental Medical Times, April*, 1893) reports a case of diphtheria which was followed by embolism of the left popliteal artery. Gangrene resulted, the line of demarcation extending obliquely from the patella in front downwards and backwards to the top of the belly of the gastrocnemius. Amputation through the thigh at the junction of the lower and middle thirds was performed, and the patient recovered.

Epilepsy.—Miller (*Edinburgh Medical Journal, July*, 1893) reports a case of epilepsy which was cured by the removal of a contraction of the slips of the palmar fascia going to the ring and little fingers of the right hand, and also the slitting up of a contracted prepuce. The fits used to commence by the fingers of the right hand becoming flexed, with the thumb over them; the arm then became flexed until the hand touched the shoulder. The rigidity extended to the right leg, and then became general, the patient losing consciousness. Some months after the operation the patient reported himself quite well.

On the Natural Cure of Basal Empyema after Pneumonia.— Russell (*British Medical Journal*, May 6, 1893), draws these conclusions regarding the natural cure of basal empyæma after pneumonia:

(1) In two the quantity of pus was small, and after the first exploratory puncture it completely disappeared with perfect recovery, so that a second exploration a few days later proved abortive.

(3) In the third case scarlatina had preceded the broncho-pneumonia. There was extensive dulness, which the syringe showed to be caused by pus, which had burst into the lung and was being expectorated. Incision was proposed, and declined by the parents, who transferred the case to another surgeon, who simply exhibited Ol. morrhuæ. The result, much to my surprise, was complete recovery, so that about two months later I could detect no difference between the two bases. Air entered freely, and there was no retraction.

(4) The fourth case had one side of the chest full of pus. Operation was declined by parents until the child was almost wasted away, and a swelling had formed in the elbow (pyæmic ?). Incision and drainage were then done in hos pital, but too late.

(5) Lastly, I have since had a case in an adult following acute rheumatism and croupous pneumonia, in which, a few days after the pneumonic crisis and before the dulness had cleared up, the temperature rose again, but before any exploration was done. The empyæma burst into the lung, and was expectorated in large amount. By the next day the temperature fell to normal, and air was entering the base, so that no operation was needed. The result was recovery.

From these cases it seems (*a*) that small empyæmata after pneumonia may be expected to resolve, but if large they should certainly be drained. Prof. Schroeder, of Vienna, I believe, is of this opinion. (*b*) That the result of an empyæma evacuated through the lung is not necessarily bad. If the opening be valvular the lung does not retract, so that in the end the result may be even better than that of operation. But, knowing the dangers of a large empyæma, non-interference cannot be recommended.

The Pied Piper of Hamelin.—It might be a wise expenditure of money for some benevolent person interested in sanitation to present to every municipal corporation in the kingdom a copy of Browning's delightful poem, called "The Pied Piper of Hamelin;" on the understanding, of course, that every member of the corporation should read, mark, learn, and inwardly digest the same. The story is, perhaps, not so well known as it ought to be. Hamelin town, in Brunswick, some five hundred years ago (the date is Browning's) was infested with rats, and the mayor and corporation were at their wits' end to know how to get rid of the plague. The pied Piper offered his services, for which he was to be rewarded with a thousand guilders; and he piped to such purpose—so cunningly and enticingly—that all the rats in the town (save one) followed him to the river Weser, wherein all plunged and perished. Great joy naturally in the town of Hamelin. But, as naturally, the piper wanted to be paid his promised thousand guilders. Here, however, the mayor and corporation grew stingy; their business was done, they thought, and they would be troubled no more; but to get rid of the pestilent fellow, they offered him fifty. Then comes the tragedy of the story. They had treated their deliverer shabbily; they had put him in a passion, and they found him pipe to another fashion. Again he piped, so sweetly and persuasively, that all the children in the town came flocking out, and ran merrily after the wonderful music with shouting and laughter; and they followed their leader to the side of a mountain, which opened and swallowed them all up, and they were never heard of more—in Hamelin; and the parents in that ill-fated city were left to mourn.

But it isn't true? We are not so sure of that. It is certainly in print; and if it wern't true, how could a grave poet like Robert Browning have taken the trouble to write out the story in charming verse? For our part we believe it to be perfectly true—if not in the letter, certainly in the spirit. When Browning wrote it, do you not think he had in view those principalities that grudge the expense of paying to get rid of nuisances? There are plenty among ourselves who still act the part of the mayor and corporation of Hamelin. Clearly the meaning of the poem is that if you are mean

enough to grudge the neeessary expenditure for ridding your town of destructive pests, then you will have to pay for your sordid economy in the loss of your dearest. You will see your children pass away before your eyes, and you will be utterly unable to stop them or to recall them. You will have to pay the piper somehow; if not in money, then in some far more costly and tragical fashion. Bacilli are more troublesome and more destructive than even rats; because they destroy the most valuable of all property, and they cannot easily be got rid of without spending money. Disease is the costliest of all conditions for a town; while the expenditure on sanitation is the wisest economy. The shade of Browning will doubtless forgive us if we have in any way misread the impressive lesson taught by his "Pied Piper of Hamelin."—*The London Sanitary Record.*

The Value of the Hands and of the Fingers.—Surgeons have often to estimate the chances of saving injured hands, and the comparative values of hands and fingers. According to a scale of value furnished by the Miners' Unions and Miners' Accident Insurance Companies of Germany, the loss of both hands is valued at 100 per cent., or the whole ability to earn a living. Losing the right hand depreciates the value of an individual as a worker 70 to 80 per cent., while the loss of the left hand represents from 60 to 70 per cent. of the earnings of both hands. The thumb is reckoned to be worth from 20 to 30 per cent. of the earnings. The first finger of the right hand is valued at from 14 to 18 per cent., that of the left hand at from 8 to 13.5 per cent. The middle finger is worth from 10 to 16 per cent. The third finger stands least of all in value; although, like other useless members of the community, it is surrounded by riches, its value is only from 7 to 9 per cent. The little finger is worth from 9 to 12 per cent. The difference in the percentages is occasioned by the difference in the trade, the first finger being, for instance, more valuable to a writer than to a digger.—*Med. News*, July 22, 1893.

THE

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AN ACT CONCERNING THE COMPILATION OF VITAL STATISTICS.

We have received from the Secretary of the Provincial Board of Health a copy of the new act, by which the compilation of vital statistics is placed in the hands of that Board and not, as formerly, in charge of the Municipal Boards.

In conformity with this law the Provincial Board of Health began, with the 1st of July 1893, the collection of vital statistics in the 846 municipalities of the Province.

The important point in this law of statistics is to require that before any burial is allowed, a certificate signed by the physician who attended the deceased and establishing the cause of death be furnished to the person entrusted with the registers of civil status (the clergyman). When no physician has been called two credible citizens or the clergyman give a certificate establishing, to the best of their knowledge, the cause of death.

These certificates, which will be forwarded monthly to the Provincial Board of Health, will be a source of precious information for the Board. They will show what localities of the Province have the highest death rate, which diseases have caused a heavy mortality in certain places and not in others, which are the diseases prevailing in certain districts, which seasons are most fatal, what ages and sexes suffer most, and what are the professions mostly affected, etc.

These statistical data the Provincial Board will study, with the result that often it may be able to indicate to municipalities the remedy which would reduce their death rate, which in some cases is enormous. (Fifteen municipalities had a death rate of over 50 per 1,000 inhabitants during the year 1890.)

But it is especially respecting contagious diseases that these certificates will be important to the Board. At the end of each month the Board, knowing the exact number of deaths caused by each contagious disease in every locality of the Province, will be enabled to inquire immediately into the measures taken to check such diseases, and by ordering a rigid enforcement of isolation and disinfection will often prevent an epidemic.

The Board relies upon the medical profession to furnish it with accurate and reliable data, and entertains no doubt as to its support, since the want of legislation on the subject, which existed up to last session, has often drawn the attention of the medical corps.

THE ELEVENTH INTERNATIONAL MEDICAL CONGRESS, ROME, 1893.

The Congress will be inaugurated, doubtless, on the 24th September, 1893, in the presence of H. M. the King of Italy. We dwell upon this fact on purpose, because there has been spread the notice of the possibility of the prorogation of this meeting. The Executive Committee has never deliberated upon a prorogation, but has, in its session of the 1st inst., determined upon a programme, and has taken the necessary dispositions to get the localities ready for September 24th.

The programme is going to be printed, the colleagues are therefore prayed to communicate promptly the titles of their papers, which shall be comprised in the programme.

Abstracts and conclusions are to be presented not later than July 31st, as prescribed by the Art. 11 of the statute.

AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

The third annual meeting of the American Electro-Therapeutic Asssociation will be held in Chicago, September 12, 13 and 14, at Appollo Hall, Central Music Hall Block.

Members of the medical profession interested in electro-therapeutics are cordially invited to attend.

Augustin H. Goelet, M.D., President.
Margaret A. Cleaves, M.D., Secretary.

THE STANDARD FOR TINCTURES.

At the annual meeting of the Pharmaceutical Association of the Province of Quebec, held June 13th, the President, in his address, stated that there is no legal standard for tinctures in this country. He says: "A topic which it may be as well to draw attention to at this time is the question as to how far pharmacists are justified in supplying tinctures made according to the United States Pharmacopœia. Neither the Dominion Parliament nor the local legislatures have as yet legislated on the subject. * * * Nothing that I can find obliges us legally to use the British Pharmacopœia. Custom alone has sanctioned its use amongst us. * * * Meantime it is apparent to me that, although custom has sanctioned the pharmacist in Canada in making his tinctures and other pharmaceuticals according to the British Pharmacopœia, there is really no law at the present moment obliging him to do so."

This way of putting the matter, we believe, does not express exactly what the President meant. The only law bearing on the case at all is the Dominion law regarding adulteration, and this leaves it an open question whether the British or the United States Pharmacopœia is to be used, and even that much is only stated indirectly and as a means of preventing tincture from being too weak, there being apparently nothing to regulate the exact strength; as long as a tincture is up to proof it may be as much over as the manufacturer chooses.

That the Government is of the opinion that there is a legal standard is shown by the following paragraph, taken from one of the daily papers:

"ADULTERATION PROSECUTIONS."

"Several city druggists have been served with notices from the Department of Inland Revenue calling upon them to pay the cost of analysis for certain samples of tinctures sold by them to the inspector of food for the Province, which on examination were found to be adulterated within the meaning of the adulteration act. The costs in each case amounts to 12 dollars."

If there is no legal standard, on what grounds could the prosecution be conducted ?

Mr. W. A. Dyer, of this city, has been conducting an inquiry as to the opinion of the medical profession and others on this question and the result has been practically unanimously in favour of the B. P. This is the standard adopted in all the medical and pharmaceutical colleges, and the vast majority of practitioners in Canada are not sufficiently acquainted with any other Pharmacopœia to prescribe from it.

There can be no doubt that prescriptions written by Canadian physicians are according to the British Pharmacopœia and, even if there is no law bearing directly upon the question, the knowledge of this fact should compel the druggist to thus dispense these preparations. We believe the chemists of Montreal have quite generally acted honourably in this matter.

Ontario has definitely settled the question by enacting that the British Pharmacopœia shall be the standard for all pharmaceutical preparations mentioned therein, and it would be well if Quebec passed a similar law, so that no doubt could be raised. To leave an important matter like this in any way an open question is not right, and Mr. Gray deserves the thanks of both professions for calling attention to it.

The following are the questions asked by Mr. Dyer, and of some eighty answers received so far, all but one are in favour of the B. P.:

1. Is there a standard for tinctures in this country ?

2. In your opinion is there any doubt whatever as to the British Pharmacopœia being the standard in the Dominion of Canada for all tinctures named in that work ?

3. When you write a prescription calling for a tincture named in the British Parmacopœia and when you do not specify B. P., what should the dispenser supply ?

—Eleven towns in England have medical men for mayors. This looks as if the medical men of England take more interest in good government than do their American brethren. We feel certain that they are good officials.—*Cin. Lancet-Clinic.*

THE

MONTREAL MEDICAL JOURNAL.

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Original Communications.

ONE HUNDRED CASES IN THE CORONER'S COURT OF MONTREAL, 1893.

By WYATT JOHNSTON, M.D., Montreal.

The increased interest taken in the proceedings of the Coroner's Court by the medical profession and the public during the past year, which has led to my being entrusted with the medical examination of bodies upon which inquests are held—as far as was possible under the existing laws and regulations,—makes a faithful report of the work done one of the duties of this position. In a preliminary communication prepared jointly with Dr. G. Villeneuve,* it was found impossible to do much more than deal with the general statistical aspects of the medical evidence, in order to prevent our paper from being too long, so that the scientific details of the cases could not be considered.

It is perhaps necessary to apologize for including so many ordinary and commonplace cases, but, as no such series has yet been published in Canada, it seemed worth while to give a true picture of the ordinary every-day work of a coroner's physician. Although 100 cases form too small a material to offer much that is novel or curious in the way of medico-legal facts, yet it seemed well at the present time to publish a series of observations which would give a general idea of the

* Montreal Medical Journal, Aug., 1893. L'Union Médicale du Canada, Aug., 1893.

usual medical questions coming up for consideration, and the grounds upon which they were decided.

In giving evidence, I have made it a rule to confine my statements of opinion as far as possible to what was clearly demonstrated by the facts observed, and in each case to state fully the facts from which these conclusions were drawn; in other words, to let the facts speak for themselves. In case it became necessary to make statements based upon probabilities, this was frankly admitted, and the possible objections to the view taken fully discussed. The practice of bolstering up weak and inconclusive facts by strong affirmations of opinion is unworthy of the name of medical testimony.

The chief end of the medical evidence was, of course, to establish clearly the cause of death. Many interesting cases of the present series have, unfortunately, not been made clear by the medical testimony, owing to autopsies not being permitted. Out of my 100 cases there were 29 autopsies ordered. testimony being given after external examinations only in the remaining 71 cases.

As a general rule, it was found that where autopsies were performed the cause of death was demonstrated with absolute certainty in almost every case, and testimony of the most positive kind could be given without reserve. On the other hand, in the case of the external examinations, I can only recall half-a-dozen instances where I felt justified in making a positive statement as to the cause of death, and these few were in connection with public accidents, where, in any case, there would have been no reasonable doubt on this point, even if no medical examination at all had been made, as the circumstances of the accidents and their fatal results were clearly established by eye-witnesses.

In two of the more important cases (Nos. 45 and 59) I was fortunate in having the co-operation of Dr. G. Villeneuve in making the examinations, and obtained valuable aid from his thorough knowledge of medico-legal questions and clear reasoning upon the facts observed by us jointly. It is much easier, as a rule, to recognize the facts brought out by a post mortem

than to decide upon their significance and the extent to which they are to be allowed to influence an opinion. The system at present in vogue, which necessitates hastily formed conclusions being submitted, without time for reflection, to an impatient jury, is one which is bound to lead, sooner or later, to serious error or miscarriage of justice, and which places the medical witness in a most unenviable position.

I have arranged the cases according to the causes of death found, rather than according to the verdicts given, and have considered chiefly the facts brought out by the examination, the conclusions formed from these, and the finding of the jury.

In drawing up reports the French form of protocol has been followed. The German system of numbering each paragraph is convenient for reference afterwards, but was found to be too cumbersome.

I.—Death by Drowning (22 Cases.)

Of the 22 cases, 18 were identified and 4 were those of unknown persons. Three autopsies were ordered, one of which was upon a body not identified. The remaining examinations were external only. In my opinion, autopsies should always be made where the facts of the death are not proved by eye-witnesses, or where there is any reason to suspect the good faith of such witnesses. Two verdicts of suicide and one of manslaughter were rendered, and in 14 the death was stated to be accidental. In the remaining five cases the verdict was simply found drowned or found in the water. In all but two of the identified persons the circumstances of the death were attested to by eye-witnesses, making the medical testimony merely corroborative. In these cases the bodies were usually found close to the scene of the accident, after the lapse of from a few hours to a few days.

When a body is found in the water, the following questions always arise:

(*a*) How long has the body been in the water?

(*b*) Was the death due to drowning?

(*c*) Was the death the result of a crime?

A.—Indications of Time in Water.

The following signs given by Duvergie and Vibert were prepared from an extensive and accurate knowledge of the appearances of drowned bodies:

Time.		Appearance.
Winter.	Summer.	
3 to 5 days...	5 to 8 hours.	Rigor mortis; body feels very cold and clammy; epidermis commencing to whiten; finger tips wrinkled.
4 to 8 days...	24 hours	Limbs flaccid: skin of natural colour; epidermis of palms very bleached; palms wrinkled; rigor in summer.
8 to 12 days..	48 hours	Flaccidity; bleaching of backs of hands; face waxy-looking.
2 weeks.....	4 days	Face puffy, reddened in places; greenish tinge of skin over sternum; epidermis of palms and soles completely bleached and commencing to form folds. Interstitial formation of gases commences. (*Green putrefaction period.*)
1 month	8 to 12 days.	Face reddish-brown; lips and eyelids green; chest greenish; skin of hands and feet wrinkled, swollen and creased as if by poultices, its consistency chalky. Body floats owing to production of gases. (*Period of bloating.*)
2 months	1 month	Face brown and swollen; epidermis largely peeled off from body; nails still attached; hair of scalp readily scraped off; skin begins to get sodden, like wet cardboard or parchment. (*Brown putrefaction period.*)
2½ months...	.....	Epidermis and nails of hands detached; epidermis of feet detached, nails still adherent; reddening of subcutaneous tissues; partial saponification of cheeks, chin, mammæ and anterior surface of thighs. (*Saponification period.*)
3½ months ...	.....	Partial detachment of scalp, eyelids and nose; saponification of neck and groins; epidermis of hands and feet completely detached and nails fallen off. (*Destructive putrefaction period.*)
4½ months ...	.....	Complete saponification of face, neck and anterior part of thighs; cutis opalescent; cranium denuded and becoming brittle; incrustation of lime in the form of small rounded or conical tubercles, size of peas, in skin of thighs. (*Incrustation period.*)

Duvergie states that the changes in summer appear about 20 to 22 days earlier than in winter, the rate in spring and autumn being intermediate. In these late periods the signs are uncertain, and the relation between the summer and winter rates of alteration very inconstant. In winter maceration alone occurs; in summer putrefaction and maceration go on simultaneously. Immersion, while it lasts, retards putrefaction, but bodies removed from the water putrify with astonishing rapidity; hence the necessity of their being viewed without delay, in order not to confound the appearances produced while in the water with those which occur subsequently.

I have endeavoured, from my own cases, to check these statements as far as possible, and find out by a study of the appearances of bodies where the period of immersion was known, to see what statements might safely be made with regard to bodies found in the neighbourhood of Montreal.

The collection of facts on this head was made difficult by the fact that nearly all of the examinations had to be made under unfavourable conditions as regards light, the bodies often being laid out in rooms lighted with candles only. The absence of facilities for dictating full notes also made the task more difficult.

The rapid decomposition of bodies after they had been removed from the water was very striking. Bodies which looked perfectly fresh when first removed became almost unrecognizable in the course of a few hours. It was impossible to prevent the occurrence of these changes in the absence of a proper refrigerating chamber. The absence of a suitable morgue made it also impossible for the progress of decomposition to be followed and noted.

As will be seen by reference to the cases, the signs of immersion, or, in other words, the evidences of maceration, came on even more rapidly in summer than might be expected from Duvergie's table. After the end of June this was especially marked. In Cases 96 and 97, an immersion of a few hours in August was found to induce as marked maceration changes than would ensue in as many days in June.

In connection with this, it is of interest to record here my observations of the mean monthly temperature of the water about Montreal, made two years ago. As I have found that the water temperature of 21° C. for August was the same in 1893 as in 1890, it may be assumed that these temperatures are fairly constant. The great size of the bodies of water (St. Lawrence and Ottawa rivers) from which they are taken, renders it unlikely that the daily and weekly variations are considerable in amount. Canal and reservoir water was found to be 2° to 4° C. higher than river water during the summer.

TEMPERATURE IN 1890.*

MONTHS.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Water, C°.....	0	0	0	4	10.9	14	18	21	18.3	13	10	4
Air, F°.....	15	17	26	42	52	65	66	66	62	45	33	7

In the examination of the bodies immersed near Montreal, and recorded in tabular form below, the chief deviation from the results given in text books was the longer duration of rigor mortis, which was still well marked after one to two weeks' immersion during the summer, in spite of the presence of advanced putrefaction in parts of the body. The muscles of the legs appear to resist putrefactive changes for a considerable time. In one case where a body showed marked maceration and decomposition, but where rigor mortis persisted, a bacteriological examination showed the absence of bacteria, microscopically, from the rectus femoris muscle and cultures made from that region remained sterile.

The early appearance of a greenish tinge over the sternum and pectoral region mentioned by Duvergie was often present. It evidently depends upon the early and rapid decomposition of the head and neck, with penetration of the gases along the planes of the fascia. It appears long before a green tinge of the abdomen is seen.

* The temperature of the air is that recorded by Prof. C. H. McLeod at the McGill Observatory.

The wrinkled and bleached condition of the hands was, on the other hand, produced much more rapidly than one would expect from Duvergi'es tables. I found in a body (Case 97) recovered from the water on a warm August afternoon, after a submersion of less than an hour, and examined a few hours later, before it had even time to become cold, a quite typical, bleached and wrinkled appearance of the palms and soles, and another body (Case 96) examined earlier on the same day, after being in the water for two hours during the previous night, also presented a typical condition of wrinkling of the epidermis. In neither case was the epidermis specially thick, one being that of a young girl and the other that of a boy of twelve.

Whether the water bacteria, or the bacteria of the body are the active agents in bringing about the decomposition of the bodies is a matter which I hope to deal with in a future communication. The extremely rapid march of putrefaction in immersed bodies appears to depend essentially upon the greater amount of water which the tissues contain, just as a moist gangrene shows much more marked putrefaction phenomena than a dry, senile gangrene. When, however, a body has been for a very long time immersed in water (several months), its putrefaction upon exposure to air is relatively slow, perhaps because the bacteria which have penetrated the tissues have had time to die out, or non-putrescible substances formed in the tissues.

The presence of cutis anserina was noted in 2 cases. It did not appear, as would be expected from the statements found in text books, as an early change, and was found in bodies which had been immersed from three to seven days. It appears to be more readily produced by cold air than cold water, and was commonly seen in bodies which were placed on ice.

Shrinking of the penis and scrotum was often seen, but is not a reliable sign, as the external genitals soon become puffy and emphysematous when the bodies are removed from the water. It is said that this appearance may be produced by immersion post mortem.

In several instances the skin over the knees was white and wrinkled.

B—Did Death result from Drowning?

The distinction between drowning (submersion) and the entrance of a dead body into the water (immersion), I found to be easy to decide in some cases, and difficult or impossible in others.

It may be well here to mention briefly the signs of drowning.

The signs of immersion given above only show that the body has remained for a certain period. In addition to this, certain appearances indicate that the body entered the water alive.

(1) *External Signs of Drowning.*—The only direct and reliable sign is that of a very abundant, fine, white froth which issues from the mouth and nostrils of drowned for a period of a few hours until two or three days after death. This is not well marked until some hours after death and disappears by the time the maceration changes have become advanced, or when putrefaction has fully set in. This foam was found present in 5 of my cases and absent in 17. It is not absolutely characteristic of drowning as I have seen it in two cases of cerebral hæmorrhage, and one of which was spontaneous (case 66), and the other traumatic (case 48), and is of value chiefly in indicating that death has been due to asphyxia. A reddish, frothy fluid, oozing from the mouth and nose of bodies partly decomposed, is no evidence of drowning.

The skin of drowned bodies is blanched.

Ecchymosis of the skin and conjunctivæ, common signs of asphyxia, were not met with in any of my cases of drowning, an observation in accordance with the statements of text-books.

Seminal emissions were twice observed. When not emphysematous, the penis and scrotum were usually shrunken.

The presence of mud, tufts of grass, etc., about the fingers and nails, which is supposed to indicate struggling near a bank, was only met with in one case (No. 61).

(2) *Internal Signs of Drowning.*—These are: (*a*) *Respiratory tract.*—The epiglottis is stated to be vertical in bodies

which have been drowned, and merely partly raised in those immersed after death. The presence of froth or water in the air passages, with œdema, or sometimes emphysematous inflation, engorgement and sub-pleural or deep-seated ecchymosis of the lungs is highly characteristic. The presence of a pint or so of reddish fluid in the pleural cavity was noted, but has no distinct significance. (*b*) Foreign bodies, such as mud, etc., in the air passages and eustachian tube. These were not seen in the cases where autopsies were made, and their absence has obviously no negative significance where the body is found in a large, clear body of water like the St. Lawrence river. (*c*) Fluid in the stomach. In the three cases examined, the stomach was found practically empty. In one of these the death was sufficiently recent to infer from this that water had not been swallowed in any considerable quantity. In the other two transudation into the peritoneum may or may not have occurred. It has been recommended* to compare by chemical analysis the fluid found in the stomach, middle ear, air passages, etc., with the water in which drowning is supposed to have occurred. (*d*) Water in the middle ear. (*e*) Foreign substances in the middle ear.

The penetration of foreign bodies into the middle ear and bronchi has also been produced artificially by immersing dead bodies in a solution of starch or meal.† This took place in 28 per cent. of the experiments. This is stated by Lacassagne only to occur after death when there is perforation of the tympanum. None were met with in my cases.

The three cases in which autopsies were allowed were all bodies which had been a long time in the water and which had in addition become putrefied after removal, so that the characteristic signs of drowning were absent.

It is stated that œdema of the lungs may occur in post-mortem immersion, also that in an œdematous lung collapse may occur. Paltauf‡ was able to show, by means of the

* Bougier. Thesis, Paris, 1884.
† Huevkovsky. Arch. l'Anthropol. Criminel, Sept, 1887.
‡ Ueber Tod durch Ertrinkung, 1888.

hæmomometer, that in bodies immersed experimentally the blood in the heart had become diluted.

* Bougier found that in bodies immersed and afterwards frozen that ice crystals were found in the large and middle-sized bronchi, but not as a rule in the bronchioles.

The right heart may either be engorged with blood or completely empty, according to whether death occurs by asphyxia or syncope.

(*f*) On the whole, the presence of a large amount of watery fluid (over 12 oz.) in the stomach is probably, next to actual froth in the bronchi, the most reliable of signs of drowning, as water does not tend to enter the stomach after death. My own material is too limited to permit me to express an opinion.

C.—Was Death the result of a Crime?

For the distinction between homicidal, suicidal and accidental drowning the medical testimony, apart from other evidence, cannot, as a rule, be very positive. It is impossible, for example, to tell whether the individual simply fell into the water, or was pushed in.

The direct medical evidence bearing upon this point would be the signs of a struggle, bruises, scratches, etc., and for this reason the hands and fingers must be examined with especial care.

In two of my cases (Nos. 93 and 94, drowned at the same time and place) such marks of violence were found. These consisted of numerous spots of ecchymosis on the arms and chest. The opinion given was that bruises had occurred before death, and that certain other lesions of the surface, abrasions and parchmentation had been produced after death, probably in the process of fishing out the bodies, but that the legal significance of the bruises could not be definitely stated without further knowledge of the circumstances of the death. It subsequently transpired that one of the victims, who could not swim, seized hold of the other, who struggled in vain to free himself, and when found the limbs of both were locked in a close embrace.

* H. Bougier. Thesis, Paris, 1881.

Anything pointing to a criminal homicide, after which the body might have been thrown into the water, has to be borne in mind. This was not indicated in any of my cases.

The absence of any marks of violence or evidence of other modes of death affords, to a certain extent, grounds for supposing that death must have been due to drowning, even when the signs of drowning have disappeared, but statements on this head have to be made with extreme caution, as the possibility of poisoning must be borne in mind.

The question of whether wounds have been made before or after death must also be dealt with in a guarded manner, as on the one hand the blood pigments tend to diffuse themselves in a remarkable degree in immersed bodies, and on the other hand an actual blood-clot may be washed away, or decolorized, or even dissolved. Definite ecchymosis of clotted blood about an injury, however, indicates a lesion produced before death.

I venture to offer the present small material for consideration, more from a desire to offer proof of having been "faithful over a few things" than in the hope that the cases quoted are specially interesting to others. The following are the details of the cases:

Case 47.—*Blow on Head and Drowning.—Autopsy.*—J. B. C., aged 45, labourer, while working upon a dredge, was struck upon the head by the iron scoop and knocked into the water. The body was recovered two weeks later, and an autopsy ordered.

Autopsy performed June 3, 1893, 24 hours after removal from water. Clothing not torn or disarranged. Head and neck greatly swollen, and features nearly obliterated. Genitals emphysematous. *Hair of scalp and moustaches readily scraped off. Skin of palms and soles white and wrinkled.* Over trunk numerous large blebs beneath epidermis filled with greenish fluid. On lower limbs similar vesicles containing clear fluid. Rigor mortis present. Strong odour of putrefaction.

A scalp wound, with ragged, lacerated edges, extends from two inches above the left external angle of the orbit nearly to the vertex. The pericranium is torn, and the bone exposed.

A linear fracture, three inches in length, extends upwards from the left frontal eminence.

On reflecting the scalp, the occipital region is seen to be infiltrated with a bloody, serous fluid extending downwards into the cellular tissue of the upper part of the neck., and *clotted blood is found free in*

the tissue. On removing the skull cap by sawing through the bone and brain together,* it is seen that the fracture is chiefly confined to the outer table of the frontal bone, the inner table presenting only a line of fracture one inch long. There is no ecchymosis about the fracture of the inner table or the dura.

Brain much softened, but the surface and convolutions retain sufficient consistency to be studied at the seat of the injury. There is no evidence of hæmorrhage or laceration.

On removal of the dura from the base of the skull, the bone is found free from fracture.

Half a pint of reddish fluid in each pleura. Bronchi free from foreign bodies. Stomach contained about 4 oz. of thick, greyish pulp. No water or foreign bodies found in internal ear.

(Nothing abnormal was found in the other organs).

Conclusions.—1. The body shows signs of maceration corresponding to a stay of about two weeks in rather cold water. The internal organs are sufficiently well preserved to render their examination satisfactory.

2. A lacerated and contused scalp wound and fracture of the outer table of the skull exist. This injury appears to have been produced before death, and been of sufficient severity to stun a man, but not to kill him immediately.

3. The state of the lungs and stomach corresponds with that of a man unable to struggle in the water.

In this case the death was the result of an accident. A verdict of manslaughter was returned, as a foreman was thought to have been guilty of criminal negligence, but the Grand Jury found no bill. The points to be determined at the autopsy were whether death had occurred from drowning or in consequence of the blow. The presence of ecchymosis beneath the scalp showed that bleeding into the tissues had taken place after the blow, and this view was afterwards confirmed by the statement of a witness that after the body had sunk a large amount of blood continued to stain the water, which of course would not have been the case if the blow had been instantly fatal. The state of the stomach, however, showed that no water had been swallowed, and that therefore probably no struggle for air had taken place.

* This method of removing the brain, followed in the Paris morgue, is extremely simple and easy. The study of lesions in the brain and membranes are not interfered with, and one is perfectly sure that lines of fracture are not artificially extended. It is possible in this way to successfully remove a brain which is all but diffluent.

Case 49.—*Unknown Man—Contusion of Head—Drowning—Autopsy.*

Body found in Lachine Canal on June 3, 1893. Autopsy on June 5, 1893. Weather very warm. Decomposition advanced. Features unrecognizable. Skin of hands and feet white and wrinkled. Hair not detached. At outer angle of right eyelid a laceration half an inch in length, penetrating half an inch; edges ragged. Cellular tissue in neighbourhood infiltrated with reddish serum. Bones of skull and face intact. Brain a good deal softened; no appearance of hæmorrhage or disease. One pint of reddish fluid in each pleura. No appearance of foreign bodies or froth in bronchi. Stomach almost empty.

Conclusions.—1. The body is that of a man probably over 40 and under 50 years of age.

2. The evidences of maceration point to a week or ten days in the water.

3. The laceration about the eyelid is not shown to have been caused before death. No other signs of violence.

4. There is nothing to indicate that death has not been caused by drowning.

In this case the slight injury in the region of the eye was surrounded by abundant reddish serous infiltration into the tissues, but this is very liable to take place by the action of the water in lesions made after immersion, or gnawed by fishes. The existence of considerable osification of the cranial bones without calcification of the cistal cartilages seemed to place the age between about 40 and 50. The verdict was "Accidentally drowned."

Case 50.—*Body of Young Woman—Identified Partly by Teeth—Immersion for Several Months—Autopsy.*

Found in St. Lawrence river June 6, 1893. Autopsy June 7, 1893. Clothing much torn.

External Examination.—Height 5 feet 3 inches. Body extensively macerated, but without much putrefactive odour. Scalp and flesh of face all gone, with exception of temporal muscles, leaving bones of skull and face bare. Flesh of trunk and limbs softened and large pieces missing. The subcutaneous adipose tissue is everywhere changed into a white, soapy substance. Skin and muscles mostly gone from hands, leaving tendons and bones exposed. Nails loosened, but still attached to hands and feet. Pubis covered with thick, dark hair. Lower part of abdomen much distended. No signs of injury to the bones nor any marks of violence on the body.

Internal Examination.—Muscles of deep, beefy red colour. Mammary glands firm and rounded, areola pale, tissue well preserved. No

signs of any fluid resembling milk. In pleuræ about a pint of reddish fluid. Cavities of heart nearly empty. Valves normal. Lungs crepitant throughout. Bronchi reddened, free from foreign bodies. Pharynx disintegrated and reduced to a pulpy condition. Spleen normal. Kidneys normal, in cortex a few whitish, gritty points, apparently tyrosin clusters. Bladder empty; mucosa normal. Pelvic organs appear normal. A cupus luteum of ¼ inch diameter, with reddish tint in right ovary. Uterus small, cervix long and narrow, mucosa thick and reddish, looking soft and velvety, length 2½ inches, width between fallopian tubes 1½ inches. Hymen circular, appears intact, orifice large enough to admit the thumb. Liver soft.

Stomach large, U shaped, near the fundus half a teacupful of reddish pulpy lumps, proving on further examination to be the pulp and skin of large grapes, with about a tablespoonful of very large grape seeds. Intestines normal, contain soft fæces and no grape seeds.

Head—On removing skull-cap brain escapes as a thick semi-fluid pulp; no appearance of hæmorrhage. Bones of cranium intact. The sutures of cranium do not appear to be ossified. Inferior maxilla contains three well developed molars on each side. On the right side the posterior premolar is displaced inwards, projecting towards the tongue. First left, and first and second right molars carious, no fillings. Incisors and canines absent from sockets, of which the edges are quite sharp. No signs of gums. Angle of jaw about 130°. Antero-posterior diameter of skull 7 inches; greatest transverse diameter 5½ inches.

Conclusions.—1. The body is that of a fully developed woman, who has never borne children.

2. It has been in the water for over a month, and probably during the entire winter.

3. There is nothing in the result of the autopsy to show that death is due to causes other than drowning. The state of the body is such that the ordinary signs of drowning would have disappeared.

In this case the body was recognized as that of a young girl, aged 18, who had disappeared in October, 1892. The identification was at first thought to be established by a peculiar brooch made from a coin. Afterwards the friends were uncertain, but admitted that the missing girl had a malformation of the teeth similar to that described. The fact that the wisdom teeth were fully formed made it unlikely that the body was only 18 years old. In this case the autopsy was ordered to see if the distension of the abdomen was due to pregnancy or not, as from the external appearances there seemed little chance of learning anything more. I was surprised to find all the vital organs in such good preservation. The jury brought in a verdict of "Wilful suicide."

External Examinations.

No.	Date.	Time in Water.	History—Appearances.
	1893.	12 hours.	W. R., sailor, aged 24. Fell off ship.
41	May 25.	Montreal Harbour. Examined 12 hrs. after removal.	No marks of external injury. Skin of hands firm and smooth. Skin of soles of feet white and wrinkled. A large amount of fine white froth issues from nostrils. Rigor mortis present. Viscid fluid in urethra. In this case the wrinkling of epidermis of soles appeared before that of the hands, owing to the fact that the body had lain with the wet boots and socks on for 12 hours before being examined.—*Acc. death*
46	June 2.	4 hours in Lachine Canal.	A.R., boy, aged 16. Drowned while bathing Skin everywhere feels very cold and clammy. Rigor mortis present. Skin of hands and feet not bleached or wrinkled. Fine white foam very plentiful about nostrils. No cutis anserina.—*Acc. death.*
55	June 17.	8 days in Lachine Canal. Examined 20 hrs. after removal.	C. S., aged 11. Fell into canal near sluice gates at Cote St. Paul. Body found at St. Henri. Skin feels cold and moist. Epidermis readily brushed off with hand. Hair not loosened. Skin of palms, soles and anterior surface of knees white and wrinkled. Nails attached. Head and neck swollen and bloated; the skin is reddened. Greenish tinge over chest. Abdomen greatly distended. No froth about nostrils. Reddish fluid containing food particles oozes from mouth. Rigor mortis marked. Moderate lividity. A little fæces about buttocks. Deep punctured wound, ½ in. long, over left patally; edges everted and rounded. No ecchymosis.—*Accidental death.*
56	June 12.	24 hrs in St. Lawrence River. Examined 12 hrs. after removal.	P. G., aged 40. Seen to fall off a wharf while placing a gangway, on June 6th, 1893. Marked rigor mortis. Advanced decomposition of head and face. Skin over chest and abdomen discoloured green. Epidermis raised into blebs filled with clear green fluid. Palms and soles white and wrinkled. Nails attached. Hair of scalp not easily detached. A bloody, frothy fluid keeps bubbling from nose.—*Accidental death.*
57	June 14.	5 days in St. Lawrence River. 12 hrs. after removal.	N. D., aged 7. While playing, seen to fall off a wharf. Rigor mortis throughout body. Advanced decomposition. Head and neck reddened and swollen. Nose flattened. Conjunctivæ red. Lids swollen. Reddish frothy fluid oozing from nostrils. Skin over chest greenish. Palms, soles and skin over knees white and wrinkled. Epidermis peels off when scraped.—*Accidental death.*

EXTERNAL EXAMINATIONS—*Continued.*

No.	DATE.	TIME IN WATER.	HISTORY—APPEARANCES.
	1893.		
61	June 20.	3 days in shallow, muddy water near Longueuil. Examined 12 hrs. after removal.	J. M., aged 21. Seen to sink while bathing. Body smeared with thick mud. Numerous larvæ. Rigor mortis present. Skin of hands and feet wrinkled. Epidermis detaches from body. Head and face not much swollen. Genitals puffy.—*Accidental death.*
62	June 20.	(?) Examined 10 hrs. after removal.	Unknown man. Body found at Maisonneuve. Rigor mortis present. Body much decomposed. Head and neck swollen and nearly black in colour. Features obliterated. Veins appear as bluish-green lines over upper extremity. Skin of hands and feet white and wrinkled. Hair comes off readily in scraping.—*Found drowned.* (The time of immersion was estimated at one to two weeks.)
65	June 27.	10 days in Montreal Harbour. Examined 12 hrs after removal.	A. M. Wharf labourer. Last seen on a wharf, and missed by his friends the following day.—*Found drowned.* Rigor mortis present. Reddish, frothy fluid issues from nose. Head and neck swollen and discoloured. Veins of upper extremity show as dark lines in the skin. Palms and soles wrinkled.
67	June 30.	2 days in Lachine Canal. Examined 10 hrs. after removal.	J. R., aged 15. Seen to drown while bathing. Rigor mortis marked. Lividity posteriorly. Undertaker's incisions for injecting embalming fluid. Skin cold and clammy. No signs of decomposition. Slight wrinkling of skin of palms, none of soles. Cutis anserina absent. Abundant white froth about nostrils. Superficial abrasions about backs of hands.—*Accidental death.*
69	July 2.	3 days in Lachine Canal Examined 6 hrs. after removal.	St. P., aged 12. Seen to fall into water while playing. Putrefaction very far advanced; body has an internal putrid smell. Head and neck swollen and reddened. Chest greenish. Rigor mortis present. Skin of soles and scrotum white and wrinkled.—*Acc. death.*
76	July 13.	(?) in St. Lawrence River Examined 24 hrs. after removal.	Unknown man, 20 to 30 years old. Mud and grass about fingers. Epidermis detaching over body. Skin of palms and soles white and wrinkled. Hair can be scraped off scalp. Decomposition advanced. Limbs flaccid.—*Found drowned.* (Immersion estimated at one to two weeks.)

EXTERNAL EXAMINATIONS—*Continued.*

No.	DATE.	TIME IN WATER.	HISTORY—APPEARANCE.
82	1893. July 25.	(?) in Montreal Aqueduct. Examined 24 hrs. after removal.	Unknown man: no history. Tattoo mark on right forearm. Advanced maceration. Limbs flaccid. Scalp and flesh of head and face almost all detached. Flesh of hands and feet detached, with exception of a few ragged fragments adhering to the bones. Muscles of neck and arms ragged and frayed, apparently from maceration. Subcutaneous fat appears completely saponified. No bones fractured. (Immersion estimated by me at several months.)—*Found drowned.*
84	July 31.	1 week in St. Lawrence River Examined 20 hrs. after removal.	J. H., age 35. Seen to fall overboard from a hay barge.—*Accidental death.* Marked rigor mortis. Face bloated and features almost effaced. Great discolouration, reddish black about head and greenish on chest and abodomen. Epidermis detaching. Skin of hands and feet bleached both on palmar and dorsal surfaces. Scalp feels thick and sodden. Hair not loosened.
93	Aug. 13.	2 days in Montreal Harbour. Examined 12 hrs. after removal.	T. W., aged 19. Bathing together with case No. 94. Skin of palms and soles white and wrinkled. Hair not loosened. Marked rigor mortis. Cutis anserina on inner surface of both thighs. Several spots of parchmentation on chest, arms and abdomen, some of which show ecchymosis beneath it; also several bluish spots were found in incising to be ecchymosis. *Opinion.*—1. The body shows marks of bruises and scratches, some of which have been produced before death and some after. It is impossible to tell what significance these have without other information about the circumstances of the death. 2. The cause of death cannot be stated from external examination.—*Acc. death.*
94	Aug. 13.	2 days in Montreal Harbuor. Examined 10 hrs. after removal.	W. S., aged 25. Drowned on same occasion as case No. 93.—*Accidental death.* Mold forming on face. Rigor mortis marked. Cutis anserina of thighs. Skin of palms, soles and knees white and wrinkled. Hair firmly attached. Face swollen and discoloured. Abdomen green. Genitals emphycematous. Greenish froth issuing from mouth. Numerous marks of parchmentation on trunk, which show in some cases ecchymosis beneath them. On left arm small elevated areas due to ecchymosis.

EXTERNAL EXAMINATIONS—*Continued.*

No.	DATE.	TIME IN WATER.	HISTORY—APPEARANCE.
94	1893. *Cont'd.*		*Conclusion.*—There is evidence of bruises made before death, and also abrasions apparently made after death. Their significance cannot be determined without more information about the circumstances of the death and recovery of the body. NOTE.—It appeared from the evidence that T. W., who was unable to swim, had seized hold of W. S., who could, and a violent struggle took place in consequence of the latter's efforts to save himself. The bodies were found closely locked together. This gave a clear explanation of the ecchymosed spots. The other abrasions may have been caused at the same time, but more probably were due to the grappling irons used in fishing for the bodies.
96	Aug. 16.	2 hours in Lachine Canal. Examined 8 hrs after removal.	C. McA., a girl aged 19, was seen to fall into the canal in attempting to jump from an open drawbridge to the bank. Clothing not removed; body placed on ice. Marked post-mortem rigidity. Face and neck slightly swollen and puffy; not discoloured. No cutis anserina. Skin of palms and soles white and wrinkled. Fine, very abundant white froth about nostrils. Conjunctivæ pale.—*Accidental death.*
97	Aug. 16.	Montreal Quarries. 1½ hours. Examined 4 hrs. after removal.	A. D., boy aged 12. Seen to fall out of a boat into a shallow pond. Clothing not removed. Body still warm; limbs flaccid. Conjunctivæ pale. Blood obtained by incising scalp is fluid, not very dark, oozes freely from veins. A little thick, white froth in mouth and nostrils. Skin of palms and soles white and wrinkled. No cutis anserina.—*Accidental death.*
98	Aug. 17.	(?)	W. W. Missing since July 6 (about six weeks). Circumstances of death unknown. Rigor mortis present. Intense putrefaction, odour like that of rancid fat. Epidermis detaching from all parts of body, and has completely separated from the hands and feet. Nails gone from hands and feet. The exposed cutis is smooth, slightly reddened and oily looking. Veins of surface appear as reddish or greenish hues. Hair readily scraped off from scalp. Face and neck swollen and bloated. Tongue protruding between the thickened lips. Eyelids everted and eyeballs protrude. Scalp feels sodden and at the same time puffy and emphysematous. Reddish fluid oozing from nose.

EXTERNAL EXAMINATIONS—*Continued.*

No.	DATE.	TIME IN WATER.	HISTORY—APPEARANCE.
98	1893. *Conf'd.*		NOTE.—In this case the length of immersion was estimated as being at least two weeks. Not having data concerning the appearance of bodies immersed for specified times at this season, I was unable to state whether the appearances made it possible that the body had been in the water for the whole six weeks during which he was missing.—*Found drowned.*
100	Aug. 21.	3 days in Montreal Harbour. Examined 2 hrs. after removal.	Identified as body of J. S., who was one of three men who threw themselves off the long wharf on August 18, 1893, with the intention of committing suicide. The two companions were saved. Rigor mortis present. Lips thick. Face swollen, discoloured and bloated. Reddish fluid in mouth. Testis retracted, scrotum emphysematous. Hair of scalp readily scraped off. Epidermis of hands and feet white and wrinkled, both on dorsal and palmar surface, and partly detached. Skin over knees white and wrinkled. Nails adherent. Greenish tinge over pectoral and sternal regions.—*Suicide.*

In the above report I have omitted the description of matters concerning identification of bodies, though, of course, these were recorded in the case of the unknown persons.

As a rule the opinions in the cases of external examination were drawn up as follows:

1. The body presents the appearances of having been in the water for . . . . .

2. The cause of death cannot be stated from external examination.

In five of the cases it was stated that the body presented external appearances found in drowned persons. In several cases it was stated that no external signs of injury were present. This statement I have almost ceased to make, as it is calculated to mislead the jury into supposing that violence by blows, etc., has been proved not to have been committed, whereas it is well known that blows of great force, sufficient, for instance, to fracture the skull, can be inflicted without leaving any traces upon the surface of the body.

In the case of those bodies where the cause of death remained unexplained, it was a matter of keen regret to me that autopsies were only ordered in 2 out of 7 cases. It is true that the autopsy might not have solved this point, owing to the advanced post-mortem changes present, but it might have shown the presence of water or foreign substances in the stomach, air passages, middle ear, etc., on the one hand, or on the other have shown some internal disease or injury. My opinion is that the grounds for ordering an antopsy should be simply that the death is obscure, irrespective of whether the difficulties produced by post-mortem changes lessen the chances of a positive result or not. This is the view held in all European countries, and all physicians charged with medico-legal work are officially notified that *no degree of decomposition or disintegration of the body* ever justifies a medical man either in refusing to perform an autopsy or in neglecting to recommend it.

In my own work this view was always carefully stated in a general way to juries, both by Coroner McMahon and myself. As the matter of autopsies is still in an unsettled state in Montreal and is on its trial, I did not feel justified in directly insisting on their being held, on the off chance of finding out the cause of death under unfavourable circumstances, from the feeling that a large number of negative results at the present time might prejudice the whole question of the routine performance of autopsies. I therefore only insisted strongly on an autopsy in my written report in three instances, where I was able to show beforehand that information would certainly be obtained on special points requiring solution. These were case 47, when a fracture of the skull was found; case 49, where a fracture of the skull was shown to be absent, and case 50, where possibility of pregnancy was negatived. Thus in each case the information looked for was obtained at the autopsy.

That in inquests upon the bodies of unknown persons found dead the inquiry should be habitually closed without having used such an obvious means of investigation as is offered by an

autopsy, is a matter for which the responsibility must be borne by the juries who had it in their power to order autopsies and neglected to do so.

An additional case, not in this series, is added because an autopsy happened to be performed (at the request of a private individual.) The case presents some interesting features.

Case 102, 1893.—J. T., aged 25, coloured, was seen to sink in a public bath. He was able to swim. The statements about the circumstances of the death were somewhat contradictory, but it is certain that the body was removed from the water after an immersion of a few minutes only, and fruitless attempts at resuscitation were practiced by two skilful physicians.

The body when viewed two hours after the accident showed flaccidity of the limbs. A white froth was seen about the nostrils. The surface was still warm and quite dry, No signs of maceration. Two spots of bruising about the forehead. Conjunctivæ pale. A little fluid like sperm in the urethra. Autopsy 24 hours p.m. Rigor mortis marked, Foam still visible in nostrils. A few ounces of reddish fluid in peritoneum and pleuræ. Blood fluid; not thick or dark. Lungs bulky, inflated, crepitant throughout, gorged with blood, and show a few sub-pleural ecchymosis and numerous small areas of hæmorrhage in the substance. Cut surface yields abundant rusty foam, not watery. Trachea, bronchi and larynx reddened and contain reddish foam. Pharynx free. Heart enlarged, weighs 350 grammes; cavities somewhat dilated. Tricuspid orifice dilated, measures 6 inches in circumference; other orifices of usual size. Heart muscles very pale and bloodless, not fatty. A few ecchymosis beneath epicardium; none beneath the endocardium. Coronary arteries normal. Slight atheroma of aorta and mitral valves. Aorta and iliac arteries present slight but widely distributed atheroma. Inter-vertebral arteries slightly atheromatous. Radial arteries normal. Spleen normal. Lymphatics and mesenteric glands full of white chylous fluid. Stomach contains 12 oz. of thick, greyish, sour gruel-like pulp, evidently for the most part digested, but including some lumps of meat nearly the size of walnuts. The mucosa thick and grayish, covered with adherent mucus and with an extremely large number of whitish lymph glands as large as split peas near the pyloris. Intestines full of ordinary looking fæces; their vessels full and injection of mucosa marked. Kidneys large, weigh 200 grammes each; shape somewhat hog-back. Capsules rather thick, surfaces smooth and dark. Stellate veins full. On section cortex thick or coarse looking and *septa Bertini* wide. Bladder contains 4 oz. of ordinary looking urine. Liver normal. Head—In frontal region, an area of coagulated blood extravasated in subcutaneous tissue beneath pericranium, diameter 1½ inches; bone not injured. Brain normal; vessels moderately full. Middle ear free from water. Vessels of mastoid region extremely full of blood. Skull-cup dense, diploe scanty.

Conclusions.—1. Death has been due to drowning.

2. From the condition of the heart and kidneys it is possible that the submersion may have been due to a syncopal attack, but this cannot be stated with certainty.

3. The significance of the contusion on the forehead cannot be stated; it seems severe enough to have caused stunning.

In this case it was probable from the signs of drowning being so ill marked that some accessory cause was present. Whether this was due to a blow on the head, or to some passing functional failure in a heart not perfectly normal, I am unable to decide, though the jury, by admitting heart failure, seem to have considered themselves in aposition to do so.

The stomach at the time of death was still in full digestion, but most of the contents seemed to have been disposed of. Sufficient food remained to have masked the presence of a small quantity of water, say four to five ounces. From the presence of arterio-sclerosis, in the absence of any syphilitic lesions, the possibility of alcohol as a cause of this change had to be considered, but I refrained from making any statement on that point in absence of any conclusive proof, knowing the predeliction of juries to bring in what may be termed "alcoholic" verdicts on very slender grounds.

I have endeavoured to show in the discussion of the above cases that the collection of facts, such as they furnish, may enable in the future statements as to the length of the period of immersion to be made with more confidence. I think it is also fairly evident that it would be better as a matter of routine to have autopsies performed in cases of death from drowning than not to have them performed. When the object of the inquiry is to decide the question of wilful homicide, it is indispensible that the physician making the examination should have a large experience in examining drowned bodies. If in ordinary cases the bodies are merely taken out of the water, viewed and buried, without being made available for scientific study, it is evident that no one can possibly be expected to acquire the experience necessary to make him an expert whose opinion, in a really difficult criminal case, would be of much value.

(To be continued.)

REPORT OF TWO CASES OF TETANY OCCURRING IN INFANCY.*

By D. J. Evans, M.D., Montreal.

Mr. Chairman and Gentlemen,—Instead of reading a report of my cases first, and making remarks upon them afterwards, permit me to reverse the usual method by presenting the case reports at the conclusion of my remarks.

Definition.—Ross, in his Diseases of the Nervous System, thus defines the condition I would submit to your consideration this evening: "Tetany consists in paroxysms of tonic contractions of certain groups of muscles, affecting for the most part the muscles of the face, arm and hand, and sometimes extending to all the muscles of the upper and lower extremities, but seldom attacking those of the lower alone."

The contracture is not accompanied by fever, may be sporadic or epidemic, idiopathic or sympathetic—*i. e.*, may occur quite independent of other disease or may be set up reflexly.

Etiology.—This malady is most frequently met with in young children between the ages of one and two years, and seems to be rather more frequent in boys. It is seldom met with in healthy, but is most frequent in nervous, delicate children and those enfeebled by acute or chronic disease, neglect, or by injudicious feeding. Among exciting causes may be noted intestinal irritation from worms, indigestible food, etc., teething and cold. The latter as an exciting cause has led to a variety of tetany being called rheumatismal tetany, where a red and swollen condition of the joints nearest the affected muscles may be noticed.

Symptoms.—A child, the subject of intestinal derangement or suffering from mild rickets, is noticed, perhaps suddenly, to be attacked by a spasm affecting the muscles of both hands, or of all the extremities. This spasm may pass away in a few moments, or may last for days, or even eight or ten weeks. Generally the first spasms are very slight and may escape notice until severe contracture compels attention. The child may be restless and appear to suffer pain, or may not apparently be the

* Read before the Montreal Clinical Society, June 3rd, 1893.

subject of any inconvenience whatever. The spasm causes the hands to be flexed at the wrist, the thumbs strongly adducted, the fingers approximated and flexed, all four being pressed against the thumb, causing the whole hand to assume a cone shape. Occasionally the thumbs may be flexed upon the palms and the fingers strongly flexed upon them. The feet are usually extended, the toes strongly flexed. The muscles of the calves and forearms are very tense and well defined. There may be œdema of the dorsal surface of both hands and feet; swelling and redness of ankles and wrists may be noticed; a condition of eccymosis of the extremities has been recorded in several instances. Spasm of the muscles of thighs and even of the trunk and face have been recorded. The condition is usually bilateral, the same group of muscles on both sides of the body being affected. In severe cases the spasm may not relax during sleep. The patient is frequently the subject of laryngismus stridulus. The reflexes are usually exaggerated, and in these cases a spasm of orbicularis palpebralum, levator alænasi, and levator angulioris can readily be induced by tapping the cheek just in front of the epitragus. This reflex is often present in subjects of laryngismus and frequently persists in cases of tetany long after the contractures have ceased.

Diagnosis.—The diagnosis is, as a rule, not difficult. The spasms are found to occur in cases where nutrition is impaired from gastro intestinal derangement or recent acute disease. The child may be the subject of rickets and has perhaps suffered from other forms of nervous derangement. The spasms are bi-lateral and symetrical; there is no elevation of temperature, and the pulse rate is not as a rule increased; the mental condition of the child is unaffected.

Nature.—The nature of the malady is the subject of conjecture. Banchut considers the condition to be a congestive neurosis, entailing a hyperæmia of the brain and cord. He bases his opinion on two cases he had the opportunity of examining post-mortem, and on the ophthalmoscopic examination of several cases, in all of which he observed the choroid to be deeply injected. Barthey et Sausiè consider it to be of a con-

vulsive nature and designate the condition "Convulsion externe tonique." The nervous irritibility of the child is increased; this effects a distubance in the circulation in the brain and cord, which leads to an explosion of nervous force in the form of spasmodic contracture of these groups of muscles. The difference, according to these observers, between laryngismus stridulus, tetany and general convulsions is only one of degree. The congestion may be caused either by reflex irritation, as worms, undigested food, or by central irritation due to blood changes (cold, poisons, etc.)

Prognosis.—Tetany is merely a symptom. The prognosis must be founded on the condition of the child and its response to treatment and proper feeding.

Treatment.—The action of the bowels must be carefully regulated; feeding and other hygienic measures attended to; rickets, if present, calls for treatment; any source of irritation should be removed; the gums should be examined and lanced, if necessary. The general impression is that little benefit is to be derived from the administration of bromide of potash or chloral.

Good feeding, cod-liver oil, cream, iron and phosphates are strongly indicated. Calabar bean in doses of from $\frac{1}{36}$ to $\frac{1}{8}$ of grain t.i.d. has been recommended.

Case I.—Topsy, female colored child, aged 17 months, suffering from a spasmotic contraction of both hands and feet. Patient was born after an easy labour, no instruments having been applied. Breast-fed for six months, the mother being a healthy young mulatto. On weaning, milk and water was tried, but without success. Lactated food gave no better results, but Dyer's food seemed to agree with the child, and on this it was fed till I saw it.

On my attention being called to the child I found it to be small for its age, rather thin, sitting all collapsed, as though weak and unable to hold its head up. Skin cool, head moist, great deal of saliva flowing from the child's mouth. Mucous membranes pale, six teeth through, tongue coated with white fur. Some enlargement at end of long bones; thoracic beading and

transverse groove marked ; abdomen distended ; muscles generally flabby, and articulations very lax. The hands and feet were in a state of spasm, thumbs being strongly adducted, the fingers all approximated to the terminal phalanxes of the thumbs and slightly flexed, as was also the whole hand. The feet were extended and the toes strongly flexed ; dorsal surfaces of both hands and feet œdematous ; muscles of calves and forearms very hard. Child does not like to be disturbed, but suffers no pain apparently. Temperature, pulse and respirations normal.

Examination of lungs reveals presence of few loose rales. Heart's sounds are normal ; spleen not defined ; motions are somewhat frequent and are undigested ; head rather square ; facial reflex present ; patellar reflex exaggerated. No history, convulsions or laryngismus ; no evidence of syphilis. The hands remained more or less in this condition for ten days and then gradually relaxed.

Treatment.—Milk diet with cream ; cod-liver oil inunctions ; lactopeptine with phosphates of iron and quinine. The child rapidly gained in weight and strength.

Case II.—Female white child, aged 10 months ; breast-fed from birth ; mother large, well nourished woman who has had five children, all dying in infancy of convulsions. Mother having had a suspicious looking rash on her arms, hands and chest, was treated with proto. iod. pills, which caused the rash to disappear.

Child has been noticed to be failing lately, motions being curdy and greenish in colour. Child is flabby and pale, very irritable. Facial reflex not present ; no laryngeal spasms ; no evidences of syphilis beyond tendency to snuffle. Hands and feet both in state of spasm, a condition which lasted for five days, being more marked on occasions.

Treatment.—Bowels cleared out with castor oil ; ordered child to be fed on peptonized milk during the day and only to be nursed twice during the night. Pot. bron. gr. v, b.i.d. for four days. Ten days later the child's general condition had improved and there were no evidences of spasm.

EXTRACTS FROM THE TWENTY-THIRD ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS.

As the contents of this volume are of so much importance and public interest, we reprint extracts from it bearing on the questions of the effect of aeration on water and the disposal of sewage by filtration. The experiments have been very extensive and complete, so that the conclusions drawn may be accepted. We have omitted all the tabular matter, and only give an outline of the experiments, with the results obtained.

The Effect of the Aeration of Natural Waters.

It is a very common belief that water deprived of air will deteriorate in quality and become unfit for use, and that the only way to maintain its purity is to keep it freely exposed to the air. The mountain stream which breaks over rocks and stones is thought to be a good illustration of the intimate connection between the aeration of water and its purity.

On the other hand, it is not generally known that the waters of many deep wells which we prize for their high purity, their clearness, coolness and good taste, contain no air, and have been preserved in this condition in the earth, for aught we know, for centuries. There is clearly a need of a clarification of our ideas on this subject.

Pure water, preserved from contact with organic matter, remains unchanged indefinitely. If exposed to the air it dissolves a definite amount of the gases of which the air is composed—nitrogen, oxygen and carbonic acid,—the amount dissolved being dependent upon temperature and pressure. If the pressure is removed, or if the water is boiled, the gases escape, to be reabsorbed when the water is exposed to the air again at ordinary temperatures; but in no sense does the air exert any preservative action on the water or tend to keep it "fresh" or "sweet."

The condition of affairs is, however, entirely changed when water contains organic matter which is capable of undergoing decomposition. The familiar process of the change of organic

into mineral matter by *decomposition* is one of oxidation, and the necessity of the presence of air to carry on this change is well understood. The breaking up of organic matter when oxygen is not present is one of *putrefaction*, the products of which are usually very offensive.

The analogy between the comparatively slow process of oxidation in nature and the destruction of organic matter by combustion has seemed to justify the inference that we can hasten the former as we can the latter by increasing the supply of oxygen. Acting on this assumption, it is not uncommon in waterworks practice to aerate the water by causing it to flow over a series of steps, or by forcing it into the air as a fountain, or by pumping air under pressure into the distribution system. Whatever the method employed for aerating the water, the idea behind it is that the water will be thereby purified by oxidation to a degree beyond that which would take place if the water were exposed to the air on the surface only.

During the past two years numerous experiments have been made in the laboratory of the State Board of Health to test this theory of accelerated oxidation, and all the experiments have given negative results. The question, let it be clearly understood, is not one of supplying oxygen to an impure water, like sewage, which contains no oxygen, but this: Will an impure water, which contains at all times more or less free oxygen in solution, be purified more rapidly by oxidation if the amount of oxygen is increased by spraying the water or by pumping air into it; can the natural process of oxidation be hastened by these means? It is to this question that the experiments give a negative answer. If we look for the cause of this failure to hasten oxidation by increasing the amount of oxygen, we find that it rests in the inherent nature of the process—a process which is only remotely analogous to the chemical process of combustion. In combustion we have the direct chemical combination of carbon and hydrogen with oxygen, and, by varying the supply of oxygen, we can at will make the combustion slow or rapid. The case is entirely different in the oxidation of organic matter in nature. Here we have to do

with the living activity of bacteria, which, in some way not fully understood, causes first the carbon and hydrogen of the organic matter, and then the nitrogen, to combine with oxygen. This process can only be hastened by increasing the number of bacteria, or by providing more favourable conditions for their activity. Thus we know that the temperature at which bacteria are most active differs with different species, but we have no evidence that, provided some free oxygen is present, the activity of the bacteria of decomposition is in the least affected by its amount. Here the analogy of bacterial oxidation and combustion ceases.

The first series of experiments was made to ascertain whether there was any change in the nitrogen compounds in waters under different degrees of aeration, namely :—

1. By exposing water contained in bottles to the air of the room.

2. By drawing a current of air through the water by means of an aspirator.

3. By shaking the water with air in a bottle, in a shaking machine driven by an electric motor, the air being renewed from time to time by removing the stopper from the bottle.

4. By exposing the water to air under a pressure of sixty to seventy-five pounds to the square inch in soda-water siphons.

The variations in the amounts of albuminoid ammonia and the nitrates in these experiments are, in general, too small to have any significance, and fall, in most cases, within the limits of accuracy of the processes used. The loss of free ammonia when the water is aerated is an instance of the driving out of one gas by another. Ammonia cannot be completely removed in this way, but when it is present in considerable amount in a water the effect of aeration by a current of air is very marked. When sewage is thus aerated, a very considerable amount of free ammonia passes out with the air.

In some cases the changes in the amounts of nitrogen compounds are not easy to explain as the result of any particular treatment. The problem is a complex one. On the one hand we have the tendency of the organic nitrogen to pass into

ammonia, and the ammonia to be oxidized to nitrates, and, on the other hand, the influence of vegetable organism in directly assimilating the nitrogen of the ammonia and nitrates. Still, the results, as a whole, show plainly that the aeration of water containing nitrogenous matter and ammonia in considerable amount has no tendency to accelerate the oxidation of the nitrogen.

In the foregoing experiments the nitrogen compounds only were investigated. The oxidation of the carbon of the organic matter represented by the albuminoid ammonia would have as a result the formation of more free ammonia ; but, as any inference based on the amount of free ammonia might be complicated by its partial removal by aeration, a series of experiments were made to ascertain directly whether any carbon was oxidized by vigorous aeration. In this series only air under pressure was used, and the evidence of the oxidation of carbon was obtained by the " oxygen consumed " from permanganate, which oxidizes only carbon and hydrogen of organic matter, not nitrogen. Should any considerable oxidation of the carbon take place by the oxygen of the air under pressure, there would be a considerable reduction of the amount of permanganate used, or of the " oxygen consumed·"

The next two series of experiments were on the aeration of water under pressure of seventy pounds to the square inch, and on the aeration of sewage diluted with distilled water.

Here, as in the previous series, we find that no more rapid oxidation goes on when the air is under pressure in the water than when the water is exposed to the air at the surface. It may be fairly concluded from the above experiments that oxidation of the elements which go to make up organic matter is a process which cannot be hastened by offering the bacteria, which are the active agents in the process, an excess of oxygen. Their activity is not stimulated in this way.

This is in accord with the interesting investigation of Dr. A. R Leeds, who examined the water above and below Niagara Falls and found no difference in the free ammonia, albuminoid ammonia and oxygen consumed after this vigorous aeration.

An interesting confirmation of the results of these experiments may also be found in the special report on Sewage Purification (1890), in which (pages 730–734) is given an account of experiments to determine the amount of air necessary for a good purification of the sewage by oxidation in intermittent sand filtration. When the atmosphere in the sand of the filter contained from one to three per cent of free oxygen the oxidation was as complete and rapid as when twenty per cent. (or the full amount in the atmosphere) was present.

Although the strictly chemical theory of oxidation in the aeration of water will have to be abandoned, it does not follow that the practice of aeration is not without good effect. It is a well-known fact that one soluble gas passed in a current through water will drive out other soluble gases which may be present in it, provided there is no chemical combination between the water and gas. The same effect is accomplished by exposing water with any gas in solution to an atmosphere of another gas. Thus when we pass a current of air through water containing sulphuretted hydrogen in solution, the latter is completely driven out, and an offensive water becomes entirely odourless. This is not a case of oxidation, for a current of carbonic acid will effect the same result. In the same way a water which has temporarily a bad odour from an excessive development of algæ, or infusoria, can be rendered quite odourless by sufficient aeration. Even sewage loses its odour when aerated by a current of air for many hours. In these cases the only change effected is the mechanical removal of the soluble gas which is the cause of the odour.

There is another good effect of aeration where it is accompanied by agitation of the water, namely, the prevention of the growth of algæ with their attendant bad tastes and odours. As is well known, it is only in the comparativety quiet waters of ponds and reservoirs that this annoyance from excessive development of vegetable growth is met with. Moving waters are free from this trouble. It seems a not unreasonable explanation of the fact that an excessive growth of algæ is sometimes stopped by continuous aeration to attribute it to the agitation of the water.

The most rapid means of aerating water are, first, by pumping air into it under pressure, the excess of air escaping when the pressure is removed ; second, by breaking it into spray by providing a series of falls, or by means of a fountain jet, or, third, by a fall in a pipe of similar construction to an injector. But these violent methods of supplying oxygen are not necessary if there is circulation in the water of a pond or reservoir whereby all the water in turn is exposed on the surface to the atmosphere

On the advent of warm weather in the spring of the year, the water of any pools over twenty feet deep may become stagnant at the bottom, and if the water contains decomposable organic matter the oxygen in solution is soon consumed, and no more can be obtained from the atmosphere. Under these conditions, this stagnant layer becomes very foul from putrefaction.

But the water in the stagnant layer does not become foul unless there is decomposable organic matter present. Thus, in Basin 4 of the Boston Water Works, which was carefully prepared for the reception of the water by the removal of all soil and vegetable matter, and is supplied with a brown swampy water from a watershed almost entirely free from population, the water is good at a depth of forty feet, because the water contains very little organic matter with a tendency to decomposition.

The water is *permanently* stagnant during the summer months only below a depth of about twenty feet, because it is turned over by strong winds to this depth in ponds of 100 to to 200 acres area. But water may be temporarily stagnant at a less depth in the absence of strong winds. In some ponds we have found oxygen to be absent at the depth of ten feet, and the water to contain much free ammonia and other products of decomposition which were absent in the layers nearer the surface.

In cases where it would be possible to bring about a circulation of an entire body of water during the warmer months, so that the lower layers would be brought to the surface and stagnation prevented, we would have effective aeration of the water

with the prevention of the accumulation of products of decomposition.

In the case of ground water, it is now well understood that the more directly from the ground it is supplied to the consumer the more acceptable it is. It needs no aeration. In fact, its storage in open reservoirs results often in the conversion of a cool, clear, palatable water into one which is repulsive to sight, smell and taste.

There is, however, one class of ground waters, not unfrequently met with, which are only fit to use after they have been exposed to the air, namely, waters which contain considerable iron in solution in the form of protoxide. These waters deposit iron oxide on standing, owing to their absorption of oxygen from the air. Aeration in connection with settling basins or filter beds might make waters of this class available for general use.

To resume :—

1. The oxidation of organic matter in water is not hastened by vigorous agitation with air or by air under pressure.

2. The aeration of water may serve a useful purpose, by preventing stagnation, by preventing the excessive growth of algæ, by removing from water disagreeable gases, and by the oxidation of iron in solution.

Experiments upon the Purification of Sewage.

During the past two years investigations have been continued upon purification by filtration along the same general lines as during the previous two years, but in such a way as to throw additional light upon numerous points of great practical importance. Most of the filters described in the previous report have been continued in use to obtain information as to their permanence, while many others have been started to investigate special points connected with sewage purification and the filtration of water.

Filter Tank No. 1, which is one of the original filters and has been in use four years, has filtered sewage during the past two years, 1890 and 1891, at an average rate of 85,920 gal-

lons per acre daily for every day in that time, and with a removal of 94 per cent. of the organic matters, as shown by the albuminoid ammonia, and 98 per cent. of the bacteria. Filter Tank No. 2, also one of the original filters, has filtered for the same period, at an average rate of 49,360 gallons per acre daily, and has removed 97.5 per cent. of the organic matters and at least 99.99 per cent. of the bacteria of the applied sewage. With many other filters correspondingly good results have been obtained.

Regarding the purity of the effluents obtained by intermittent filtration, it will suffice to say in this connection that there is no other method of sewage purification which yields results at all comparable to those obtained by intermittent filtration under favorable conditions.

One of the most important results of the past two years' work is the fact that, by systematically breaking the scum which forms on the surface of filters, a very much larger quantity of sewage can be purified without any deterioration in the quality of the effluent.

We had found that different materials require different treatments for the best results; that a system of applying sewage best adapted to a fine material fails to yield the best results when applied to a coarse sand, and *vice versa*. By studying the performance of our different filters under various conditions, in connection with the mechanical composition of their materials, we have discovered many of the causes of these differences, and have secured data which will enable us to determine, in advance, the general line of treatment required by different sands. In a similar way we can form an approximate estimate of the quantity of sewage which can be successfully applied to various materials under known conditions. The reader should bear in mind that the results given in this paper were obtained at the Experiment Station, where all of the work is under scientific supervision, and the sewage is applied to small areas with uniformity and in definitely measured doses. In applying these results to actual work on the large scale, some allowance may have to be made for less favourable conditions.

We have continued the study of the effect of winter weather upon filtration, and have found that even with unprotected filters good results are possible in our climate. The effluents obtained in winter, while less perfect than those of the warmer months, were still good—much better than could be obtained by other processes, as, for instance, chemical precipitation.

An excessive quantity of acid in the sewage prevents satisfactory purification, but our experiments have shown that if, for the treatment of such sewage, a filter containing limestone is employed, the acid is neutralized, and a good result is obtained. This is a most important demonstration, as it assures the successful use of sewage filters, regardless af possible acidity of sewage. If the sewage is only occasionally acid, it will cause no trouble with ordinary filters, but if it upon trial proves to be so strongly and continuously acid as to prevent satisfactory purification, the addition of limestone to the upper layers can be depended upon to correct the acidity, and to insure as good a result as could otherwise be obtained from normal sewage.

The permanency of filters has also been made the subject of special study. The leading fact of intermittent filtration is that the organic matters of the sewage are destroyed instead of being stored in the filter, as is largely the case with other methods of filtration ; and it seemed probable, from the available data at the time of writing the special report upon the Purification of Sewage and Water, that there would be no continued accumulation of matter in the filter. Further study has shown, however, that the conditions which allow the purification of the maximum volume of sewage with the best results are such that a small percentage of the more stable organic matters of the sewage resist the oxidizing action of the filter, and accumulate in its upper layers, until after a time the surface may become choked to such an extent that it will remain saturated with water, theereby excluding the air. This can be remedied temporarily by turning the surface under, but it does not seem probable that continued inversion of the upper layers will allow the indefinite use of the same material while still

maintaining the application of the maximum quantity of sewage. With lower rates of filtration the storage may be less in proportion to the amount of sewage, and, in any case, the replacing with fresh material of a moderate amount of the upper layers of sand from time to time will ensure the permanency of the filter. It is quite possible that the removed sand, when taken entirely away from the filter, will in time so far regain its original properties as to again allow its advantageous use as filtering material. We are giving much attention to methods for hastening this renovation.

The purification of sewage by intermittent filtration depends upon oxygen and time; all other conditions are secondary. Temperature has only a minor influence; the organisms necessary for purification are sure to establish themselves in a filter before it has been long in use. Imperfect purification for any considerable period can invariably be traced either to a lack of oxygen in the pores of the filter, or to the sewage passing so quickly through that there is not sufficient time for the oxidation processes to take place. Any treatment which keeps all particles of sewage distributed over the surface of sand particles, in contact with an excess of air for a sufficient time, is sure to give a well-oxidized effluent, and the power of any material to purify sewage depends almost entirely upon its ability to hold the sewage in contact with air. It must hold both sewage and air in sufficient amounts. Both of these qualities depend upon the physical characteristics of the material. The ability of a sand to purify sewage, and also the treatment required for the best results, bear a very close relation to its mechanical composition. It is our present purpose to more definitely formulate the results obtained with a view to predict the action of any material from its mechanical composition.

Each of the materials used has been made the subject of special study to determine the most advantageous method of applying sewage. With the coarser materials the amount of sewage which can be applied at one time is limited by the slight retentive capacity of the sand; if too large a quantity is added at once a portion of the sewage will pass through the filter in

too short a time for complete oxidation. It is evident that the dose should not exceed the water capacity of the material,—because if it should a portion would pass through at once after having forced out the water previously held. It has been shown in the special report upon Purification of Sewage and Water that even an equivalent of the water capacity is too large a quantity to apply at once, for some of the sewage passes by the water previously held, which is mainly contained in the finer pores, while the larger open spaces offer a free passage to the freshly applied sewage. In the case of No. 1 sand, with a dose equal to two-thirds of the water capacity of the filter, a very considerable quantity of sewage passed unoxidized; with smaller doses, amounting to less than one-fourth of the water capacity, but applied so frequently that the total daily dose was even larger than before, a much better effluent was obtained. With the very coarse material, No. 16, the size of the dose which can be applied at once is very much smaller, even when compared with its smaller water capacity, some experiments having shown that with a dose of less than three per cent. of the water capacity a measurable, although a very small, amount of freshly applied sewage reached the outlet within ten minutes. With the finer, No. 6, sand there is no trouble from sewage passing too quickly when the dose equals one half the water capacity, or even somewhat more than half.

With the finer materials, the dose might be an even greater fraction of the greater water capacity, were it not for the limited air supply. It may be said, in a general way, that sewage requires its volume of air for its oxidation; and there is great danger that so much sewage may be got into the filter at once that the air present in the sand will prove inadequate for its purification. With No. 2 sand five feet deep and comparatively clean, a dose five inches deep over the surface has been applied three times a week without overtaxing the air; No. 4 has taken half as much with good results; while with the soil, No. 5, any practicable quantity is an overdose.

The amount of sewage which can be applied in a single dose does not, however, give any indication of the amount of sewage

which can be purified in a given time. With the fine materials the sewage enters the sand slowly, and time must be allowed for this slow process, and afterwards for the water to drain out at the bottom, drawing in at the same time fresh air from the top to purify the next portion of sewage to be applied. Two or three days must be allowed for this to take place in sands as fine as Nos. 2 and 4, and probably a longer time might be advantageous under some conditions. With the coarser sands the draining and renewal of air is more rapid, and applications may follow each other at shorter intervals without danger of exhausting the air.

One effect of passing large volumes of sewage through clean sand is to increase the amount of organic matters held by the sand. This organic matter forms a sticky coating on the sand grains, as has already been noticed, and greatly increases the capillary attraction and water capacity, while the air space is correspondingly decreased. A most striking illustration of this is furnished by No. 1 sand in Filter 14. When the sand was new and quite clean, it retained only eight per cent. of water, but after three years of constant heavy dosing with sewage, every grain of sand in the upper portion of the filter was covered with a slimy coating, which, keeping itself moist, increased the water capacity of the entire filter to fourteen per cent., or nearly double the original amount.

With coarse materials, where the amount of sewage which can be applied at one time is limited by the water capacity, and a large excess of air is always present, this increase in the amount of water held has a beneficial effect, and the sand, after filtering sewage for a time, is capable of doing more and better work than at the beginning. With fine materials, on the other hand, where the amount of sewage which can be applied is limited by the air in the material, no such improvement with age is observed. The reduction of air space, especially near the surface, where the storage of organic matter is greatest, retards the passage of sewage, and to an even greater extent the exchange of air, with the result that doses must be smaller, or else applied at longer intervals.

As the sand becomes choked in its upper layers, the ventilation of the filter becomes of vital importance. The ridging of the surface of some of the filters was an attempt to secure better ventilation. It was hoped that as sewage passed down through the trenches, exhausted air would be driven up through the ridges, to be replaced by fresh air, as the filter drained. With Filters Nos. 2 and 9 no definite improvement followed the ridging. Filter No. 1 gave a better result after the change, but it is open to question whether this resulted from the ridges in themselves or from the reaching of cleaner sand by digging the trenches. In the latter case, the result might simply indicate that one-half the surface clean allowed better ventilation than the whole surface clogged. We have, then, no results which show any clear advantage from the use of trenches over flat surfaces, as far as ventilation is concerned.

Ventilation can often be increased by applying larger doses at longer intervals. A large dose of sewage makes a great disturbance of the air in a filter, and, within certain limits, changes more air in proportion to its own volume than a smaller dose. The application of volumes of sewage in excess of the water limit in coarse materials causes a great increase in the number of bacteria in the effluent, but it may improve the chemical analysis when there is a lack of air, and so might be justified where there was no possibility of the effluent finding its way into drinking water.

The removal of bacteria has a close relation to the size of the material. With the fine materials, Nos. 2, 4 and 5, there is reason to believe that no bacteria are able to pass from top to bottom of the filters; with the coarser No. 9 sand, if any pass, the number is ordinarily extremely small, certainly as low as one in a hundred thousand of those applied. The coarser sands, Nos. 1 and 6, allow the passage of considerable numbers, especially with doses in excess of the water limit, and with the coarse gravels bacteria come through freely and in large numbers, the percentage depending upon the condition of the filter and the size of the dose.

During the first winter, 1887–88, the various filters were

exposed to the weather without protection, and no nitrification was obtained until the temperature began to rise in spring. The result might have been different if the filters had been nitrifying well before cold weather. During the two following winters the filters were protected from snow, and to a certain extent from cold, by canvas covers. It was found that when the filters were so protected, almost, if not quite, as good results were obtained in the winter as during the warmer months, and it was established, as stated in the special report upon Purification of Sewage and Water (pages 29 and 255); that intermittent filtration is entirely practicable in this climate, if snow is kept from the filtering area.

We had no satisfactory information, however, as to what results could be obtained from unprotected filters. Accordingly, in the winter of 1890–91 the out-door filters were left exposed to the weather. Filters 1, 2, 4 and 6 were receiving from 34,000 to 103,000 gallons of sewage per acre daily, and were free from complications, so that they furnish the best data in regard to frost. All the other filters with exposed surfaces were so complicated by other circumstances that the results obtained with them cannot fairly be considered in this connection.

When sand is frozen solidly after drainage, there still remain open pores through which the sewage easily finds its way, thawing to some extent the frost as it proceeds. After the sewage has drained away, the portion which remains in the sand again freezes, but open pores are still left, which allow the passage of the next portion of sewage. If, however, the sewage settles away very slowly, it will freeze before the sand drains, and in this case no pores are left, and the next application of sewage will remain upon the surface and freeze solidly, if the weather is cold enough. If snow is upon the surface of the sand and sewage is applied uniformly to it, it is at once chilled to the freezing point, and has then no power of thawing the frost in the upper layers of sand, and if the weather is cold the whole will solidify on the surface, effectually closing the filter. The two essential conditions to the passage of sewage through the filters in winter are that sewage shall never be put

into snow, and that the filtering material shall be open enough to absorb its dose rapidly.

Sewage was applied uniformly at a temperature of from 44° to 46°, or the average sewage temperature in winter. The sewage which comes to the station is chilled by passing through the Merrimack River in an iron pipe, and is afterwards warmed to its original temperature by hot-water pipes passing through the measuring basins. All the snow was promptly removed from the filters by shovels. Each week the surface was disturbed; if the sand became sufficiently thawed at any time when it was not sewage covered, it was then raked. When there was no such opportunity for raking, the surface was disturbed with a pick in numerous places.

As soon as frost began to form freely in the various filters a marked change was noticed in the chemical composition of the effluents; the free ammonia increased, and soon the nitrates decreased. The organic matters, as shown by the albuminoid ammonia and by the oxygen consumed from permanganate, also increased, but not to an extent corresponding with the free ammonia. During the colder months nitrification was much checked; ammonia, instead of nitrates, was largely the end product of oxidation, as far as nitrogen was concerned. The first stage of purification, namely, the oxidation to ammonia and carbonic acid, was not affected to the same extent.

During the colder months of the year there was a period with each filter of about three months, during which purification was much less complete than at higher temperatures. The time of this period varied in the different cases: the coarse materials were the first to suffer; the finer sands were not so soon affected, but the period was as long, extending into warmer weather. With No. 1 a marked improvement occurred while the temperature of the effluent was still decreasing.

In filter No. 17 A a little limestone was mixed with the upper layers of the filtering material, and sewage which was made strongly acid was regularly applied for over a year. The effluent showed as good a purification and nitrification as when normal sewage was filtered, under similar conditions, through

sand without limestone. We have thus a cheap and effective remedy for any complication due to acidity of sewage. If the sewage is only occasionally acid, or if the filtering material contains available base, the acid will not injuriously affect the result. If, however, the filtering material contains no lime, and the sewage is so constantly and strongly acid as to interfere with the result, a little limestone, put upon the surface or dug into the upper layers of the filter, will completely overcome the effect of the acid.

Some of our filters have been in continuous use, without change of material, for four years, and are still capable of doing good work. As has been frequently intimated on the preceding pages, there has been an accumulation of organic matters in these filters. We have already seen some of the effects of this accumulation in making the sands act as if they were finer than when clean, increasing the water capacity and decreasing the air space, thus within certain limits increasing the effectiveness of coarse materials, but not improving the finer sands.

The constancy of the percentages of storage of insoluble nitrogenous matters is remarkable. Taking the final results, the highest are not twice as great as the lowest, and with seven filters out of nine the percentages are between 66 and 80. This can only be interpreted as showing that there are substances in sewage so staple as to resist, for a very long time at least, the oxidizing action of the filters.

We have not as yet obtained a permanent condition of equilibrium with no further increase in storage. On the contrary, the organic matters have been steadily increasing, and at a rate approximately equal to 70 per cent. of the insoluble matters applied. The accumulation has proceeded so far in some of our filters as to seriously cripple them. To secure as good results in the future as in the past some remedy must be applied. Two alternatives suggest themselves: the clogged upper layers can be turned under to a considerable depth, or they can be removed. If upon turning the surface under, its organic matters become oxidized in time so that it will again serve for a surface layer, then turning under is the better policy; otherwise removal is the better way.

This point was discussed in the report upon the Purification of Sewage and Water. It was there shown that the organic matters were accumulating at the surface and decreasing elsewhere, and it was thought that this indicated a stronger oxidizing action beneath the surface. Another explanation is that the matters near the surface were those suspended in the sewage and that those stored below were the more soluble and decomposable matters of the sewage; that it was the difference in character and not in position which determined their oxidation. This view is supported by the fact that when the surface was raked and spaded under, these matters instead of disappearing steadily increased, as more sewage was applied.

Some results on this point have also been obtained with Filter No. 14. On July 29, 1891, the upper foot of material in this tank was inverted. Excellent results followed, and after three months the albuminoid ammonia was reduced in the second six inches, that is, in the old surface, from 50 to 29 parts per 100,000. At the same time there was an increase nearer the surface almost equal to the suspended matter of the applied sewage, and also in the material below the first foot. This last amounted to more than half as much in total weight as the decrease in the old surface layer. After making the inversion, the downward flow of sewage was very rapid after flooding; and it is probable that this organic matter was carried down mechanically by the rapid current. The total reduction of albuminoid ammonia below the upper six inches was comparatively small.

The fact of continually increasing storage in the large outdoor filters is sufficient evidence that they do not afford conditions favourable to the oxidation of this material. On them we have applied as much sewage as was possible with good results, and much more than is usually applied in practice. In a majority of cases—always with the fine materials, and often with the coarser ones,—this has meant as much sewage as could be oxidized by the air in the filter. All the air available has been required to oxidize the more decomposable matters; the stable insoluble matter, we believe, can only receive the attention of

the bacteria when there is an excess of air. Filters do their maximum work when the volume of sewage applied is so large that there is no considerable excess of air; when the supply exactly meets the present demand, oxidizing only the less stable matters and preventing their passage into the effluent. There may also be a question as to whether the bacteria will do their best work upon this insoluble matter while they are receiving a daily dose of fresh sewage, with its rich supply of food for them.

If the fresh sewage were entirely cut off would not the bacteria turn their attention to the sludge? If the upper layer were removed entirely and piled up by itself, would it not purify itself much more rapidly than anywhere in a filter where it is continually wet with new sewage? If this clogged material is removed the filters will be able to continue doing the large amount of good work which they have done in the past; they may do even more in some cases. The removed material may so purify itself in time as to again allow its advantageous use for filtration, but, if not, fresh sand must eventually be supplied. In actual practice with ample areas of filtering material a simple way of applying these ideas would be to abandon for a time an old area, after it had become clogged, without removal of the surface. How long a time would be required for such an area to regain its power of purification, and what treatments would hasten the result, are subjects for further research.

It may be queried whether piling up sand containing large amounts of organic matter stored from the sewage will not create a nuisance. To this we can answer no. The stored matters are the most stable portions of the sewage; they have resisted strong oxidizing action, and are incapable of rapid or objectionable decomposition. The matters which would have caused trouble had they been stored are just the ones which have been oxidized. The material should be so placed that a change of air in its pores will be possible, and no offence need be anticipated.

Filter No. 6 in four years' use has filtered 310,000 gallons of sewage, the equivalent of 62,000,000 gallons per acre. The upper 2½ inches of material now contain about 70 quarts per

100,000 by weight of albuminoid ammonia, and the next 3 inches about 20 parts. To fully restore the filter to good working order we should remove the upper 2½ inches or 1.68 cubic yards for the filter, or 5.4 yards per million gallons of sewage treated. In July, 1891, when Filter No. 1 commenced to be seriously clogged, the layer with excessive organic matters was not more than 3 inches deep, although more than 400,000 gallons of sewage (80,000,000 gallons per acre) had passed. In this case the removal of two yards, or at the rate of 5 yards per million gallons of sewage treated, would have sufficed. In June, 1891, the surface of Filter No. 2 was clogged not more than two inches deep after filtering 230,000 gallons (46,000,000 gallons per acre), corresponding to 5.8 yards per million gallons. The sand below this upper layer contains some stored matter, which would be carried forward to the next account, and might eventually raise the amount of sand to be removed to eight or even ten yards per million gallons. On the other hand, so far as this sand regains its power of purifying sewage this amount will be reduced. If the sewage contained more or less suspended matter, correspondingly more or less new sand would be required, and if the suspended matter was first removed from the sewage by settling, we may believe that the amount of sand to be removed would be very small. Experiments are now in progress to determine this point.

The following case quoted in the report, is of interest as affording an illustration of probable infection through the domestic water supply:

The Board was requested to investigate certain cases of typhoid fever which occurred in great Barrington in the fall of 1891. In August 1891, a case occurred in the family of Mr. Hirsch, living near the village, in which one death occurred. It appeared that a drain leading from the kitchen sink past the well used by the family had been broken, allowing the discharge from the sink to soak into the soil near the well with the probability of polluting the water. Other cases not fatal were said to have followed in the same family. The Board of Health requested the family to discontinue the use of the water of this

well, and they complied, and soon moved out of the house. The sink drain was repaired very soon afterward, and while it was being repaired a boy from a neighbouring family came and played about the drain ; whether he drank of the water of the well could not be learned. This lad was taken ill with typhoid fever September 7, and died October 18. His illness was followed by five other cases in the same family, the disease having a continuous run in this family of three months. The persons attacked were the mother, four sons and a daughter aged six. Of these six, four died. In this house there was no drainage whatever. The kitchen sink had no outlet, and all sink water, as well as some of the excreta of the sick, were thrown out upon the ground about the well. The privy vault was situated across the yard, at a distance of about seventy-five to one hundred feet from the house, and a cow stable was somewhat nearer.

The water supply of this household was obtained from two sources—from a cistern which was supplied from the roof, and from a well situated just outside the kitchen door. Both were provided with chain pumps. The well was mainly for drinking water.

Reviews and Notices of Books.

Manual on the Proper Mode of Extracting Teeth.

By John Gorham, M.R.C.S. London: H. K. Lewis.

The fourth edition of the above manual is most applicable to the dental student, as it denotes the names of the teeth, improved instruments used, and the mode of manipulating the modern forceps of to-day. This little volume of well arranged terms appertaining to dental extraction gives the student a practical idea in a condensed method of the art of extracting teeth, names of the different forceps, way of adjusting same, and rules to guide the operator in their uses. The author also shows plates of upper and lower dentition, the ages of the decidious and permanent eruptions, which is most important in dental surgery, aids for extractions by means of anæsthetics, recommending those universally used, both locally and internally, and lastly shows cuts of forceps.

The views of the author are certainly very practicable and of long experience, and we commend Professor Gorham's tooth extraction to the English-speaking dentists as an easy means of acquiring the best that is known of the subject under consideration, so far as dental surgery is concerned. The work will be valuable as an educator, not only on account of the matter it contains, but because of its simplicity and the clearness with which the author presents the subject to the student.

The Indian Medico-Chirurgical Review. A Monthly Journal and Review of Indian and Foreign Medicine and the Allied Sciences. Edited by N. H. Choksy, M.D. Bombay: N. K. Rad & Co. London: Bailliére, Tindall & Cox.

This is a new journal, started at the beginning of this year, and devoted to medicine and surgery as practised in India. The present number, the sixth, contains: Original Articles—The Three Bombay Censuses, by M. B. Colah, M.D.; On the Nature of Leprosy, B. H. Nanavatty, L.M.S; An Abstract of the Leprosy Commission Report (continued); Clinical Memorandum; Reviews and Notices of Books; Editorials and Leading Articles; Progress of Medical Science; Medical News and Notes. It is the only medical journal in that part of India, and judging from the copy which we have received, it should have a useful and extended career before it.

Nursing: Its Principles and Practice for Hospital and Private Use. By Isabel Adams Hampton, Graduate of the New York Training School for Nurses attached to Bellevue Hospital; Superintendent of Nurses and Principal of the Training School for Nurses, Johns Hopkins Hospital, etc. Illustrated. Price $2. Philadelphia: W. B. Saunders. 1893.

The first chapters of this book are devoted to the discussion of the details of the organization and management of training schools and hospitals. An outline of the course of lectures and demonstrations is given for the two years' course. A section is devoted to hospital etiquette, which is admirably defined as consisting of "nothing more than the continual and systematic observance of every-day courtesies." Instructions are given regarding ward supplies and the care of the ward

and its furnishings, how to make up the beds and prepare them for special cases, and how to lift and move patients. Chapters are devoted to hygiene, disinfection and notes on bacteriology, as well as many other subjects of interest and importance to a nurse. We are pleased to note a chapter on the administration of anæsthetics, a subject which it is well for a nurse to know something about, although not as a rule coming within her province.

This manual will prove very useful as a text-book and book of reference for nurses, and, indeed, the general practitioner will find much in it to repay the time spent in its perusal, as it gives a good account of what the duties of a nurse are, and how these duties should be performed.

Disease in Children, a Manual for Students and Practitioners. By James Carmichael, M.D., F.R.C.P., Edin.; Physician Royal Hospital for Sick Children; University Lecturer on Disease in Children, Edinburgh. Illustrated with thirty-one charts. Price $3. New York: D. Appleton & Co. Montreal: Wm. Foster Brown & Co., 233 St. James street.

This manual gives a concise account of the clinical features of the more common diseases met with in children. As the author says, "It is not strictly correct to talk of diseases *of* children, as we would of women who suffer from ailments particularly their own. Disease *in* children must be studied exactly on the same lines and by the same methods as disease in adults." Hence, before beginning a study of this subject it is necessary to have a knowledge of general medicine and the diseases of adult life. The author, working on these lines, has produced a most useful manual, embodying his own experience both in public and private practice.

It would be an improvement if the prescriptions were written out in single doses, and also if it were more definitely stated what ages the prescriptions are intended for. Appendicitis as a cause of peritonitis is just mentioned, but by no means receives the attention that it deserves, and in the treatment of diphtheria, peroxide of hydrogen is omitted from the list of local applications.

However, it is an excellent text-book, and we trust the author will pardon us for pointing out these oversights.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 31st, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Enchondroma of the Mammary Gland in a Bitch.—Dr. ADAMI brought before the Society a case of this condition on account of its rarity. Enchondroma has been very occasionally reported as occurring in the female, perhaps more frequently in the domestic animals. The present specimen, a bullet-like growth 2½ inches in diameter, was obtained from a setter bitch, having been removed by Mr. Hart, one of our students, in conjunction with Mr. Tracey, veterinary student. The growth would seem to be of less than a year's duration, and to have originated after a rather severe mammitis. The bitch had a litter of puppies in February, 1892. There was some difficulty about the weaning and one of the teats became injured and inflamed. The bitch recovered, but in the autumn a small lump was observed in the previously injured teat. It was removed at the beginning of last month.

The structure of this tumour is typical, it is slightly lobulated, and the centre is of bony hardness. Sections showed the lobules towards the periphery to be of hyaline cartilage, with some regions presenting stellate cells and less dense matrix; they were separated by bands of fibrous tissue. Deeper down the matrix became impregnated with calcareous salts, but even at the centre there was not true bone. There were large channels in which ran the blood vessels surrounded by loose cellular structure, but the surrounding osteoid framework possessed neither proper Haversian canals or true lamellæ. Langlois, in the *Dictionnaire des Sciences Médicales*, gives a good account of these mammary enchondromata.

Papillomatous Outgrowth of the Lower End of the Ileum.—Dr. ADAMI exhibited for Dr. Wyatt Johnston the lowest three inches of the ileum presenting the above condition. Several tubercular ulcers had been found higher up in the ileum, but this last portion was quite free and exhibited numerous delicate papillary prolongations, the longest from ½ to ⅝ of an inch in length. There was no sign of surrounding inflammation, and

they differed both in appearance and structure from the larger coarser papillomata which not infrequently are found in the neighbourhood of ulcers. These are beset by villi and in structure most nearly resemble the hypertrophied projecting, solitary glands which are occasionally met with, but if this be their nature their length and delicate finger-like appearance distinguishes them from the specimens usually encountered in museums.

Dr. Wyatt Johnston said that this very unusual specimen was obtained from a patient who had died from taking Paris green. At the autopsy there was found severe tuberculosis of the intestines, with but little elsewhere. In the lungs there were two tuberculous foci, each about the size of an almond, and were composed entirely of little, grey miliary tubercles; there were also signs of old cicatrices in the apex of one lung. The case appeared to present the unusual conditions of primary intestinal tuberculosis, there being extensive ulceration of the cæcum and ascending colon.

The case is of interest from a medico-legal point of view, as to the possible interpretation that might be put on these ulcerations in view of the history of poisoning by arsenic. In regarding them from the side of the mucous membrane it would be difficult to say positively that they were tubercular; but in viewing them from the serous coat inwards their tubercular nature becomes quite evident. The polypoid nature of the growths is very interesting. They usually grow in the large bowel, and when they occur in the small intestine they are usually in connection with leukæmia. The little projections contain lymphoid follicles arising from the lymphatic tissue of the submucosa.

Dr. Lapthorn Smith said that for the purpose of comparison with Dr. Johnston's specimen he had brought one shown by himself some meetings back. They are papillæ obtained from a papillomatous disease of the large intestine about the region of the sigmoid flexure. Dr. Adami, at the time, made a microscopical examination of these shreds and pronounced the growth benign, to the great relief of the patient. They resemble Dr. Johnston's specimen to the naked eye.

Dr. Wesley Mills, referring to the specimen taken from the bitch, said that enchondromata are rather unusual, al-

though tumours of the mammary glands are quite common and tend to become malignant. By far the most remarkable tumour that he had ever seen in connection with the mammary gland was a cyst containing a large worm, some five or six inches long. This position for such a parasite was one of the most remarkable cases he had ever heard of. The bitch belonged to him and he had removed the tumour.

Dr. Adami hoped that Dr. Smith would not express too sanguine opinions with reference to the non-malignity of the intestinal growth submitted to him for examination some time ago. While from the appearance of the tissue examined it was undoubtedly benign, it is well known that these tumours, although at one time quite benign, may later take on malignant growth. Such growths were of a much coarser nature than Dr. Johnston's specimen.

Nephrectomy through Abdominal Incision.—Dr. Lapthorn Smith exhibited an enormous kidney, and gave the following history of the case: The patient was sent to me with what was supposed to be a large multilocular ovarian cyst. The tumour so completely filled the abdomen as to be immovable. It was movable with the uterus, which was pushed downwards, backwards and to the left by the growth. The tumour seemed to rest on the brim of the pelvis. On the bowels being well emptied I felt pretty sure that this was a tumour, not of the uterus, but of the kidney. I suspected pyelo-nephritis. When I opened the abdomen the tumour at once presented, but with a layer of peritoneum over it. After selecting a spot in the peritoneum where there were no vessels we (Dr. Lockhart assisted me) made an opening and proceeded to dissect the peritoneum off the tumour. On reaching the back we found a large pedicle, which was regularly ligated. We then found the incision too small to deliver the tumour through; the latter was then tapped, when it immediately collapsed and delivery was easily affected. The renal artery was tied, and the kidney removed without any great difficulty. We then washed out the abdominal cavity with boiled water, and inserted a drainage tube at the lowest part. The pedicle was dropped into the cavity. During the operation there was little or no bleeding, and afterwards there escaped from the tube in the first 24 hours about two ounces of blood, when the

discharges rapidly became serous in character. Since the operation the patient has had almost no pain and pulse and temperature have been normal. On opening the kidney it was seen to be saculated, and in one of the sacs a calculus was found. In regard to the condition of the urine, before the operation it was free from albumen, but very scanty in quantity. The first 24 hours after the operation she only passed 8 ounces, the next 24 hours the quantity had gone up to 20 ounces. No water was allowed to be taken by the mouth after the first 24 hours from operating.

Discussion on Tuberculosis—*Continued.*

Dr. Lapthorn Smith, in opening the discussion, said that Dr. McEachran's paper was the very thing necessary to rouse the profession to a true way of looking at the matter The infectious nature of tuberculosis has been more readily accepted by the public than by the profession, and in this respect the profession is not altogether free from blame. The public should have been long ago fully informed of the nature of this disease, for as a result of their ignorance thousands have died from exposure to infection—anæmic girls put into the hospital wards with tuberculous patients; young men in lodging houses occupying the same bed or same room with a chronic consumptive; young girls in boarding schools or convents.

We have so far laid too much stress on the idea that consumption is hereditary, and this is largely due to the habit of insurance companies inquiring into all the branches of the family tree, but it never seems to occur to them that a person may contract consumption by sleeping in the same room with another in the last stage. He had met cases again and again where a perfectly healthy girl contracted consumption in a few months from a tuberculous husband, and cited a case here in Montreal of a young girl who moved into a house in May, in which a consumptive had died in April, and before six months had elapsed she had contracted the disease herself.

The children of consumptives are not more likely to die of consumption than any one else, if they are timely removed from infection. The death rate from tuberculosis among children in the hospitals in Paris, the greatest number of

which are taken from tuberculosis parents, is not greater than that prevailing amongst children elsewhere. This Society has great influence, and if it sends out advice to the public, the advice will be well received. We can stamp out consumption as well as we can stamp out small-pox.

Dr. F. W. Campbell thought that perhaps he was one of those men who have been educated by insurance companies to look upon the transmissibility of this disease from one generation to another as the all important factor. There are sometimes facts which present themselves to a man's observation and which he fails to realize. The facts as regards the contagiousness of tuberculosis, which now seem so plain to our eyes, were no less plain ten years ago, but not having the theoretical knowledge of to-day to work upon, they either remained as stumbling blocks in our path, or were explained on other lines. In connection with tuberculosis, not only as a disease which we may communicate to one another, but also as one which may be contracted from the lower animals, we must remember that our patients should be guarded, not only against exposing themselves with friends who have tuberculosis, but also that the importance of enquiring into the nature of their food supply, especially that of milk and meat, should be duly impressed upon them. We will never reach the bottom of the difficulty until we get a thoroughly honest and scientific investigation of the city milk and food supply. So long as the milk is allowed to be delivered without bacteriological investigation, so long will our efforts be futile; we may isolate, we may carry out antiseptic processes in the treatment of our patients; but so long as the milk and flesh of tuberculous animals is allowed to be used by the public, just so long will we have tuberculosis existing to an enormous extent among the population.

Now, although inheritance is no longer regarded as the sole factor in the etiology of phthisis, it is of unquestionable importance in this respect. There seems to be a great susceptibility of persons, under certain conditions, for the absorption of the tubercular poison. But there is no question as to the advisability of treating the affection as a contagious disease. The absolute necessity of at least partial isolation must be borne in mind. So far as occupying the same bed or the same

room is concerned, so far as having every particle of expectoration disinfected or destroyed, the principles of antisepsis must be rigidly applied. The patient should be required to spit into cloths or a paper spit box, which may be destroyed So long as these precautions are neglected, just so long will we have tubercular patients. We may never get rid of the disease altogether, but there is a great future before us in modifying its existence. The first thing to do is to absolutely impress upon the people the idea that it is absolutely a contagious and infectious disease.

The treatment of tuberculosis is a question of great difficulty to the medical practitioner. When a tuberculous patient comes to him he is in a difficulty to know what is the proper advice to give. There is not a physician who, the moment he gets such a case, does not feel that he has a very complicated matter to deal with; it is often a matter in which finances play a great part. Many of us have of late been sending patients to Florida, to California, or to the heights of Colorado; but the amount of money required to enjoy such resorts will, in a great many instances, be beyond the means of the individual. Now we have within reasonable reach a place which is before long to stand pre-eminently the home for consumptives, and which is only a few hours ride from Montreal. There is to-day in the Adirondacks a sanitarium, under the care of Dr. Trudeau, which is indeed a very excellent place. This gentleman has done a great deal to make a good home for consumptives, his charges are only five dollars a week, which includes the medical attendance; he treats cases, and treats them very successfully, almost entirely by keeping them in the open air, amongst the pines. Thus, while we have so desirable a locality close at hand, we should hesitate before recommending long journeys and great expense where fatigue and money are subjects of consideration.

Dr. Armstrong thought that it would be a wise proceeding if the facts brought out in the discussion were put in pamphlet form and sent to each member for consideration, and that some means should be adopted to spread this knowledge among the laity, for by so doing it would lighten the burden of the family practitioner. Every medical man knows how difficult it is to get families to carry out proper precautions

when the disease is in their homes, because they do not realize the danger.

Dr. Wesley Mills had noticed, in watching the progress of thought in the profession, a very dangerous tendency to swing round from one extreme to another. This is very well seen in the relation of heredity to tuberculosis—from considering it the sole factor, we are coming to regard it as of no importance whatever. If we were to assume that heredity has nothing to do with the subject, we would be making a mistake, and a little consideration will show that all modern physiology and pathology attach as much importance to the invaded cells as to the invading ones. Heredity means the same tendencies in the offspring as in the parents; it may be associated with similarity of form, or it may not; it may be visible or invisible, but it is there. Now, we all know from the experience of breeders that an hereditary tendency can in the course of generations be annihilated, and this fact should be borne in mind in the forming of human alliances. By an injudicious alliance an inherited tendency to a disease can be intensified, just as it can be lessened by a judicious one. So that in spite of bacilli and antisepsis it is not less, but more important than ever that people should be warned in making their alliances for life. It is true that an individual who has no special predisposition, when sleeping with a phthisical patient may contract the disease, but that is an extreme case, and under such circumstances the infection must be due to the enormous quantity of the germs. As a rule, a person who has no predisposition will not contract the disease, and an alliance of a predisposed person with such might help to eradicate the tendency. There are many instances in pathology when the contraction of the disease depends upon the quantity of the germs, and it is to such circumstances we must attribute infection where no predisposition exists. As to the question of whether the bacilli themselves can be inherited, it has been shown that the placenta has contained not only actual bacilli, but actual tubercles. What we have yet to determine is whether there is actual intra-uterine infection or not.

During the past few years he had bred many hundred pigeons of high breed, that is to say, pigeons which have

deviated much from the normal by man's selection. Such organisms are easily disturbed, and disease works great ravages amongst them. It is his custom to make post-mortems on all deaths; some of them were submitted to Dr. Johnston, and by this means many facts about tuberculosis have been acquired; one is, that the organism is quite as important as the bacillus. For a time there was but a little of the disease, at other times considerable. How is that to be explained? The strains he was dealing with were known, as well as that environment which is best suited for resisting all sorts of disease. It is also known that in birds there is one particular period of the year at which their vitality is at the lowest, namely, when they are changing their feathers, which they do completely once a year. When the amount of feathers on a bird is considered, the amount of metabolism that is required to restore these feathers, and also when many of these feathers have blood at their base, it can easily be understood how the bird's vitality must at this time be at its lowest ebb; and it is at this period that tuberculosis, entritis, etc., is most prevalent amongst them. Then again, during the cold weather we have many instances of tuberculosis amongst our birds. These are splendid instances of how condition and environment may determine disease. Tuberculosis runs in birds a very rapid course. Symptoms of a serious nature may be absent to within a few days of death; even death may result without profound emaciation.

Dr. G. P. Girdwood could not disregard a hereditary tendency to the disease. Whether tuberculosis passes direct from the parent to the offspring, or whether it is some weak constitution brought about by the union of two people with a mal-affinity, may be a disputed point; but every old practitioner knows it as a matter of observation, that in certain families all the individuals, one after another, die off as soon as they arrive at a certain age. In other families you find the greater part die off in consumption, all but one or two, and these usually the scapegraces, who have probably lived a less sedentry life—have lived more in the open air.

There is another point in connection with heredity, and that is, that a peculiarity of constitution may be developed which has no congenital antecedent in the nature of either

parent, but that some transient condition of either or both parents, some depressed vitality, may at the moment of conception beget a constitution for the offspring which renders it liable to attacks of the bacillus in after life.

He had also seen associated with tuberculous disease, madness and cancer. There were families of which several members die of tuberculosis, some of madness, others, especially the girls, of cancer. Now it may be all the one tendency which takes a particular turn in certain constitutions, now developing into tuberculosis, now into cancer, and again into madness. Again, there are cases of acute mania in young men and women who recover and afterwards die of tuberculosis, which shows another association between madness and tuberculosis. Where this tendency lies is a disputed point.

With regard to the treatment of tuberculosis, he was strongly of the impression that the proper place for a sick man is his own home. All the advantages of distant places can probably be obtained at home, such as open air and exercise which keeps a man employed out of doors, and surroundings which conduce to health. These will place the patient in the best possible position to fight the bacilli. There is also a moral aspect of the question: What right has one member of a family to spend the money required for a change of climate, when by doing so it often means harassing, if not impoverishing, the rest of the family? .

Dr. Roddick, speaking of the treatment, said that sending patients away is a subject of considerable importance, not only to the patient, but to those with whom the patient has to travel. In a trip to the South recently he was obliged to live for a day and a half in a sleeping car with three persons very far advanced in phthisis. It not only impressed him very much, but many others in the same car; one lady absolutely refused to travel with them; she can not be blamed, as she was in delicate health. Three years ago he had crossed the Atlantic with a man who was going to the South of France; he was locked up in the same berth with this man, who was constantly complaining of draft and would insist on having the door closed. Such people are unquestionably dangerous, and should not be allowed to travel in sleeping cars or steamboats, except under special circumstances. In fact, in

the South, where they have much experience of the results of such practices, so thoroughly alive is popular sentiment to the danger of contagion that many people will not occupy a room in a hotel unless it has been first as completely disinfected as if there had been a case of scarlet fever occupying it previously. This is causing so much extra expense that they are now refusing to receive consumptives in the hotels, and probably it will soon come to pass that in Southern resorts these unfortunates will have recognized quarters which they must occupy, and none other.

Dr. McEachran, in answer, said that he felt sure the remarks made, if published, would have a very valuable influence relative to the treatment of the disease in the lower animals, and causing some steps to be taken with a view to even controlling it among human beings.

When statistics in the human subject are looked for they are not as easily furnished as in the case of cattle; but if the similarity of the disease in animals and man can be shown, the facts furnished from the former should serve as data for our manner of dealing with the latter. With regard to copulation as a means of propagating the disease, he quoted several instances of unquestionable transmission in this way, and in this respect it can pass as readily from the male to the female as from the female to the male. He had met with many instances which show beyond doubt the communicability by contact, sometimes produced by the males, sometimes by the females, of this dread disease.

He thought that if the Society goes before the public and makes strong statements as to the nature and manner of dealing with the disease, it will be doing a work which shall prove a lasting benefit to the country, while so far as Government interference with the disease in animals is concerned, something will be done in the near future. The Government is going to get up pamphlets, distribute them broadcast, and have the public informed of the true nature of the disease. Now, if the medical part was equally made known, the combined effect would be a work of very great good.

Dr. Adami, in answer, said he was very glad that this subject of heredity had been brought forward. The right view, that is, the one which has been fairly well accepted, is that

heredity does not imply an inheritance of the bacilli, but rather an inherited weakness towards resisting this particular germ. With regard to whether the fœtus is ever affected, there are two, if not more, undoubted instances recorded in which the fœtus has been affected by tuberculosis. There is no question but it can occur, but it is of very rare occurrence.

In conclusion, he agreed with what Dr. McEachran and every speaker had said, that information upon this subject should be widespread, and that the public should be made acquainted with the extreme infectiousness of this disease, and that we should do our best in every way to stamp out this terrible scourge.

The PRESIDENT named the following Committee to draw up rules in accordance with the discussion: Drs. A. D. Blackader, McEachran, Laberge, Adami and Wyatt Johnston.

MONTREAL CLINICAL SOCIETY.

Stated Meeting, May 20th, 1893.

DR. HALDIMAND IN THE CHAIR.

Dr. HACKETT read the report of an interesting case of "Puerperal Septicæmia." The patient had aborted at the third month and part of the placenta was retained. Curetting was performed on the second day post-partum and a piece of decomposed placenta removed. The temperature at once fell to normal, but rose again several days later, the rise being accompanied by a chill. As the house drains were not in a good condition, the above symptoms were ascribed to sewer gas infection, and the patient was removed to another house, when she made a speedy recovery.

In the remarks that followed Dr. KIRKPATRICK related a case of puerperal septicæmia caused by the patient using a pan-closet after the membranes had ruptured.

Dr. EVANS advocated cleansing out the uterus with a spiral brush and introducing iodoform pencils. All of his own cases had yielded to this. He related a case where the patient had got up and used the chamber just after labour. This was followed by chills, rise of temperature, etc., and in four days the patient died. Post-mortem decomposition set in very rapidly.

Dr. Gunn opposed the use of the brush for cleaning out the uterus, as it would be almost impossible to clean out the uterine corners with that instrument. Theoretically, at all events, the curette was much to be preferred. He related a rapidly fatal case. The patient had been delivered of a macerated fœtus with an adherent placenta. This was removed and an intro-uterine antiseptic douche given. On the sixth day post-partum, patient became stupid, was comatose on the seventh, and died on the eighth. The lochia were sweet and there was no rise of temperature all through. The urine had not been observed.

Dr. Gordon Campbell agreed with Dr. Gunn regarding the difficulty experienced in clearing out a uterus with a brush, and in support of his opinion remarked that he had seen a uterus removed post-mortem. This had been subjected to curettement previously and one corner had not been touched by the curette, If this was the case with a curette, it would be much more difficult for a brush to reach the part.

Dr. Haldimand remarked that where he had been practising previously midwifery was largely conducted by women, and that ne had seen several cases of puerperal fever. He recalled one case which was especially virulent. When he first saw the patient her temperature was 105.2 F.° Twenty grains of quinine and the wet pack reduced the temperature to 103° F., but the case ended fatally in two days and very rapid decomposition set in post-mortem.

Dr. Hackett replied.

Dr. Kirkpatrick then read the report of a case of "Accidental Hæmorrhage," and showed the placenta from the same. The patient, a primipara, had received a blow on the abdomen about a month before delivery, which occurred over one month before term. The blow was followed by pain, which soon passed off. On delivery the fœtus was found to be dead and the placenta fatty. The liquor amonii was blood-stained and clots of blood had formed between the placenta and the fundus of the uterus. There was also hæmorrhage into the substance of the placenta. The blow was evidently the cause of the hæmorrhage, which in turn caused the death of the fœtus by separat-

ing the placenta. The fatty degeneration was merely a retrograde change.

Dr. A. W. GARDNER asked if there were any signs of endometritis, remarking that accidental hæmorrhage was often due to disease of the blood vessels.

A very interesting paper on "The Diagnostic Value of the Gastric Juice" was read by Dr. GUNN. He described its composition, as well as methods of obtaining it. He also minutely described various tests employed in his investigations. As a result of autopsies on infants performed by himself, he only once found an acid gastric secretion, thus showing the uselessness of inserting food undigested into such stomachs.

Dr. EVANS stated that some authorities held that the intestine took on the work of the stomach where there was abnormality in the gastric secretion. One Russian observer maintains that the stomach is normally merely a receiver and that the absorp- goes on in the intestine, but this theory is ridiculed by Ewald.

Dr. G. BROWN had investigated the subject of digestion in a patient who used the stomach tube. He discovered deficiency of hydrochloric acid and pepsin, and prescribed hydrochloric acid and pepsin, with a good result. Gastric juice being alkaline after death is of no significance, as acid secretion is set up by food, and you would not expect to find the hydrochloric acid unless food had recently been introduced into the stomach.

Dr. GORDON CAMPBELL had tested the gastric juice in one case and found the hydrochloric acid normal after a test breakfast, but the patient only suffers after eating something more solid. In order to ascertain the amount of acid secreted, you should collect the whole gastric juice.

Dr. MORROW said that Charles stated that the pyloric glands were constantly secreting an alkaline fluid, while those of the cardiac end of the stomach secreted an acid juice, and even that only on stimulation.

Dr. GUNN replied, and after cases in practice had been related by Drs. Schmidt, Evans and Haldimand, the meeting adjourned.

Stated Meeting, June 3rd, 1893.

Dr. Orr in the Chair.

Dr. Evans read a short report on "Tetany," founded on two cases met with in his own practice. (See page 183).

Dr. Allan had seen a number of cases in men, the larger number being in shoemakers, and asked what proportion of cases were infantile and what adult?

In reply, Dr. Evans said that it most commonly occurred in children between one and two years of age. It was also seen during the puerperium and at puberty.

Dr. Spiers then read a very interesting summary of cases of "Scarlet Fever," which had occurred in the wards of the Montreal General Hospital under his care. The patients were mostly children, but some were young girls. One infant, 10 weeks old, had been exposed to the infection for some time, but failed to take the disease. The rash assumes many forms, and in one case was marked by general venous hyperæmia. Desquamation varies with the variety of skin, viz, where the skin is fine the desquamation is also fine. In some cases the temperature remained high for days without apparent sufficient cause, and all these cases had marked pallor. In one case death from uræmia followed suppression of urine. There was one case of double ear disease.

Dr. Kenneth Cameron had sent Dr. Spier four cases, one of which was very puzzling. It first had a rash resembling that of measles. Two more had similar symptoms, followed on the fourth day by an œdematous scarlet rash, which, however, was unlike that of scarlet fever.

Dr. Gordon Campbell considered the diagnosis of scarlet fever from measles to be by no means easy in every case. He had observed four children who had a slight pink rash and sore throat; when seen two were desquamating. Possibly these were cases of rubeola or German measles.

Dr. Kirkpatrick said that many cases were first seen by artificial light, which made it difficult to diagnose the rash. He had observed one case of diphtheria with a typical scarlet fever rash. Jameson, of Edinburgh, keeps the skin and naso-pharynx

disinfected and does not consider isolation absolutely necessary, although advisable when possible. He uses carbolic acid ℥ss. and thymol, gr. x to ℥i., for the skin. One rarely sees a young baby with scarlet fever.

Dr. GEORGE BROWN had observed two cases in children one and one and a half years of age, and both were very severe. The fever was very high. The rash varies at different times of day. In one case of convulsions a scarlatinal rash followed, and in another case the rash was only present for one day, and was not followed by desquamation.

Dr. H. D. HAMILTON saw a patient supposed to have mumps. There had been an attack of so-called hives one week previously. The urine was loaded with albumen and there was hæmaturia and hæmorrhage from the bowels for two days, followed by recovery. Pain over the parotid was caused by commencing middle ear trouble.

Dr. SPIER replied.

Dr. H. D. HAMILTON then read a paper on "Guiacol in Tuberculosis," relating a series of cases treated with that drug. He described the origin of the medicine, which he said might contain 90 per cent. of creosote. For this reason he considered both drugs together. Guiacol, however, has a less disagreeable taste than creosote, and is therefore used as a substitute. The dosage used by Dr. Hamilton was from one to twenty minims, according to the degree of tolerance. Out of eleven cases treated with guiacol, only five are under observation at present. One has died, the tuberculosis rapidly extending during the course of treatment. In only one case was there any diminution of night sweats. In another case the already advanced pulmonary symptoms remained in *statu quo*. All of the cases were in an advanced stage of the disease when they applied for treatment, and, speaking generally, Dr. Hamilton could not see any marked improvement, except locally, where topical applications were made.

Dr. MORROW said that guiacol was contra-indicated in tuberculosis where there was any tendency to hæmorrhage, and asked if Dr. Hamilton had seen any such case?

Dr. GUNN had given creosote, and investigated its effect on

the blood. He found that the number of leucocytes increased when the dose of creosote was increased. The drug was useful in some cases, but not in all.

Dr. GEO. BROWN asked if there was any increase in the number of red blood corpuscles. He quoted from a paper in the *British Medical Journal*, in which the author stated that as the condition of the stomach improved the number of red corpuscles increased.

Dr. HAMILTON replied.

The report of a case of labour at the seventh month was read by Dr. VIPOND. The child was very weak and required great care, but was still living and doing well when last heard from.

After some general business the meeting adjourned until the autumn.

HURON MEDICAL ASSOCIATION.

The quarterly meeting of this association met in the large room of the Mechanics' Institute on the 11th ult., Dr. Wood, of Mitchell, president, in the chair, and Dr. Smith, of Mitchell, acting as secretary. The morning session began at 10 a.m., and ended at 1 p.m. The attendance was moderate. Two papers were read at this session, the first by Dr. McLaughlin, of Auburn, and the second by Dr. Campbell, of Seaforth. Good discussions were held on each paper, after which the meeting adjourned until two o'clock. At the afternoon session nineteen medical men were present, including Dr. Eccles, of London, and Dr. McLeod, of Brooklyn, N.Y. A report was given and a specimen was presented by Dr. Bethune, of Seaforth, after which Dr. Campbell read another paper and presented several patients. Good discussion took place on all these. The great feature of the day was a paper by Prof. Eccles describing operations which he performed. It was very interesting, and provoked a lengthy discussion. Drs. Elliott and Smith, of Seaforth, then gave a report of their late trip to the States, after which Dr. Eccles was made an honorary member, and Dr. Elliott, who is moving to Chicago, was granted his certificate of membership, with a high recommendation to the profession of Chicago. Dr. Elliott made a suitable reply, after which a vote of thanks was passed to J. Garrow, Esq., M.P.P., for his conduct in the House in reference to recent medical legislation.

NEW YORK ACADEMY OF MEDICINE.

Section on Orthopædic Surgery.

Stated Meeting, May 19th, 1893.

W. R. Townsend, M.D, Chairman.

Severe Calcaneus after Willet's Operation.—Dr. Halsted Myers presented a patient upon whom he had operated for severe calcaneus which had occurred after a Willet's operation. The anterior tendons were divided, and forcible manipulation failed to overcome the deformity. Through a posterior vertical incision he then easily exposed the astragalus, and removed a wedge from its upper suface, which had become hypertrophied from lack of normal pressure. The wedge was made three-eighths of an inch thick on the inner side, and one-eighth of an inch on the outer side, to correct a valgus present. The apex of the wedge corresponded to the anterior edge of the tibia. The articular surface of the tibia was scarified, and the foot easily brought to the normal position. The tendo achillis was a mere ribbon and was not shortened. The position is good now, seven weeks after operation, and there is apparently no motion at the ankle joint. The child is to wear an ankle brace with a higher heel for some time.

Dr. S. Ketch said this case was brought to his clinic at the Women's Medical College, and at that time the deformity was pronounced, so that it seemed as if only a radical operation would be successful. He believed that Willet's operation had been performed on the patient several times. He referred the case to Dr. Myers, and he was very much gratified at the result.

The Chairman said that Willet's operation had been done a great many times at the Hospital for the Ruptured and Crippled, but increased experience had taught them that it was only one step in the treatment of calcaneus. Careful support was necessary after the operation to prevent relapse.

Neuromimetic Club-Foot.—Dr. S. Ketch presented such a case. He first saw the patient at the Orthopædic Dispensary on May 15, 1893. She was about 15 years of age, and had never menstruated. The history is that three months ago, as a result of a sudden twist, the foot became contracted and she

was not able to straighten it again. Examination showed that there was atrophy of the calf and some contraction of the adductors of the thigh, the inward rotators, and the tibialis anticus; the foot was in marked varus; there was no equinus and no shortening. As she walked the limp was pronounced. The foot could be entirely replaced by gradual manual force. At this time the foot was very much more distorted than at present. A diagnosis was made of neuromimetic club-foot. As is characteristic of such cases, there were the hyper-extended toes, and a degree of varus altogether out of proportion to the contraction of the foot. Previous to this the girl had given no evidence of hysteria. By simple suggestion he had been able to improve her condition materially.

Dr. Henry Ling Taylor agreed in the diagnosis. He was reminded of a patient whom he attempted to treat by a brace, but she insisted upon taking it off at short intervals. After some time she developed, or claimed to develop, a hemi anæsthesia, which involved the lips and tongue and one entire half of the body. After several weeks she also developed a peculiar attitude of the hand on the same side. Within a month or six weeks she completely recovered.

Operative and Mechanical Treatment of Flat-Foot Compared—Dr. Ketch also presented a patient, 19 years of age, who afforded an excellent opportunity for comparing the results of operative and mechanical treatment. He first came to the dispensary one year ago, complaining of considerable pain in the soles of both feet on walking. There was very marked prominence of the sole and bulging of the scaphoid and other tarsal bones. The condition had lasted for about three years. After a short time he disappeared, and on his return it was learned that the left foot had been operated upon about three months before at the Presbyterian Hospital. He had been unable, however, to ascertain the exact nature of the operation. The patient walked on the outer side of his foot.

Dr. R. H. Sayre said he had never met with any cases of flat-foot which he had not been able to make comfortable without a bone operation, and those which he had seen operated upon by others had not seemed to him to yield such good results as mechanical treatment.

The Forcible Correction of Angular Deformities by means of a Special Mechanical Apparatus.—Dr. Joel E. Goldthwaite, of Boston, read a paper with this title, and demonstrated by many large photographs and by apparatus his method of treatment.

Dr. Halsted Myers described a simple method which he had used successfully to reduce the lateral dislocations which occur in the course of knee-joint disease. Adhesive straps were applied to the leg, and a plaster of paris splint applied from the upper part of the thigh to the lower part of the leg. A large window was cut in this splint from the level of the joint to the lower third of the leg, diametrically opposite the deformity, to allow the bones to be drawn in that direction. By means of a webbing strap, previously passed around the the upper part and fastened over a steel spring which crossed it, traction was made forward and inward. Longitudinal traction was also made by fastening the adhesive plasters to a perineal crutch, which was always a part of the apparatus. The treatment was illustrated by the exhibition of a patient who was wearing this apparatus.

Dr. R. H. Sayre exhibited an apparatus which he had used on a case in which the knee was ankylosed at about 45°. It would not be suitable for greater angles. The apparatas was modelled after Robin's osteoclast. In the case referred to he was unable to loosen the patella. Where the patella had slid forward to the lower extremities of the condyles of the femur he could not see how it was possible by mechanical force to slide the tibia forward to a proper bearing surface until the patella had been gotten out of the way. It might be necessary in some cases to loosen the patella through an incision by means of a chisel before applying the apparatus. In a case in which he thought there was only fibrous adhesion he adopted this plan, but after the patella was free it was impossible to reduce the posterior subluxation of the tibia. Excision was therefore performed, and he then found a remarkable hypertrophy of the spine of the tabia, which prevented by its projection into the inter-condyloid notch the reduction of the deformity. He thought the great pressure which Dr. Goldthwaite's apparatus exerted against the condyles of the femur would cause a great deal more traumatism than walking. It

was partly on this account he had preferred modifying Robin's osteoclast to using the apparatus devised by Dr. Bradford, as his patient still had tender spots on the condyle, although active symptoms had been absent for years. The fact that there was so much movement in Goldthwaite's cases is pretty conclusive evidence that there was more peri-arthritis than arthritis.

Dr. Ketch said the fact brought out in the paper that after the locking of a joint for many years one is able by such a process to restore considerable motion, was in itself interesting, and perhaps opened up a new field in the treatment of such cases. It certainly emphasized what every orthopædic sugeon sees as a result of long-continued mechanical treatment. He referred to two cases which he had just seen, in which persistent mechanical treatment had overcome what at one time was thought to be bony ankylosis. This should teach us that no matter how long a joint has been locked, so long as no true bony ankylosis is present, one should not despair of obtaining even a considerable degree of motion. The most interesting practical point in this treatment is the possibility of lighting up an old tubercular process. The cases reported in the paper would seem to justify us in taking this risk, at least until we have further information on the subject.

Dr. H. L. Taylor had been greatly interested in Dr. Goldthwaite's work since the publication of his first article. The mechanical means were certainly well adapted to accomplish the desired result. In the treatment of inflammation of joints it had seemed to him always well to combine traction with whatever force is applied, and he thought adhesive plasters could be applied to the leg and used in connection with Goldthwaite's apparatas. However, from the action of the apparatus, the small amount of reaction following the operation, and the ultimate results obtained, it seemed to him that traction must be exerted by the apparatus, and that it left very little to be desired. His father, Dr. C. Fayette Taylor, described in 1879, in the *New York Medical Journal*, an apparatus which he had devised, called a genuclast. In it counter traction above and below the knee was combined with an eccentric leverage which was perfectly under control. It was successfully employed in a number of cases, but the

method was not so well adapted to overcome the subluxation of the tibia as that presented in the paper this evening. As Dr. Ketch had remarked, those who had not had an extensive experience in orthopædic surgery could hardly realize how much could be accomplised by persistent, gradual treatment.

Dr. KETCH asked if Dr. Goldthwaite had used it as a corrector of deformity, and receiving a negative reply, he suggested that an apparatus might be constructed on the same principle which could be used as a walking brace.

Dr. H. W. BERG asked if the popliteal abscess which occurred in one of the reported cases was the result of the forcible straightening of the limb, or was the result of an osteitis. He had, in common with most general practitioners, preferred to use the gradual method, for fear of just such a complication.

Dr. WHITMAN said he had understod the author to say that the cases were selected—namely, were those in which amputation or excision had been advised. Why were no tenotomies done? Was it because most of the resistance was supposed to be in the posterior portion of the capsule? Personally, he believed that subcutaneous tenotomy would aid very much in the replacement.

Dr. R. H. SAYRE said that the suggestion of Dr. Ketch had reminded him of his father's knee splint, in which traction is made in the axis of the leg, and at right angles to the long axis, by bands passing across the front of the thigh and behind the calf and around the bars of the instrument, in the same manner as traction is made by the screw in the apparatus just exhibited.

Dr. GOLDTHWAITE, in closing the discussion, said that the discussion seemed to indicate that his method was not applicable to acute cases, yet Dr. Sayre's patient with the tender points was an acute case. His method and apparatus were only intended for a certain small class in which all acute symptoms had disappeared, and in which some severe operation, like amputation, or excision, would be otherwise attempted.

The pressure is applied evenly to the end of the femur by a leather band, and does not cause any trouble. The chances

are that in cases where there is firm, bony ankylosis of the patella to the femur, there would be bony ankylosis of the femur to the tibia; this would exclude it from the class suitable for this treatment. If, however, there were only firm fibrous adhesions, the application of his apparatus would be justifiable. He was willing to admit that in the case which did so well there was probably very little intra-articular disease, yet it was in the hands of the general surgeon, and was to be submitted to excision. Quite a number of the cases had had gradual extension by means of a weight and pulley in bed for several months, but with absolutely no benefit. It should be remembered that the cases in which his operation is to be done is where the adhesions are so firm that this treatment cannot be expected to succeed.

The fifth case was not a proper one for forcible correction; the patient was in a poor general condition; there was tuberculosis of the lung, and probably also tuberculosis of the knee. The treatment probably caused a lighting up of the tuberculosis in the knee, but it was a choice between taking this risk and allowing him to remain a hopeless cripple.

Tenotomy had been done in two of the cases, and while it was certainly not a serious procedure, it did not seem to be at all necessary, and hence he thought it better to avoid it, as it certainly prolonged the period of convalescence.

A total of eleven cases had been treated by this method, and in no instance had there been the slightest acute trouble, except in the last one reported, which, as had been said, was not a fair case for the operation. Excluding this, there had been no relapses. The first case was done in 1887, and the woman is perfectly well and has a very useful limb. The most recent operation was done last February, and she had had no trouble up to the present time.

One severe case of gonorrheal rheumatism which had been in the hospital for the greater part of five years had a right-angled contraction, extreme valgus and rotation, yet he left the hospital ten days after this operation, and has been at work ever since.

In two other cases, where the deformity was the result of an ordinary articular rheumatism of one year's duration, an amputation had been advised by a well-known surgeon on

account of the constant pain and deformity. The pain existing in rheumatic arthritis and in gonorrheal rheumatism is relieved by breaking up the adhesions in this way; hence, pain is an indication, rather than a contra-indication to the operation.

On motion, a vote of thanks was tendered to Dr. Goldthwaite for his kindness in coming to New York and presenting such an interesting and instructive paper.

Selections.

Penetrating Gun-shot Wound of the Liver.—J. O. Closs, M.D., C.M., Edinburgh, Honorary Surgeon, Dunedin Hospital, in the *New Zealand Medical Journal* for April, 1893, says: In view of the fact that penetrating gun-shot wounds of the liver are generally very fatal, I beg to bring this case under notice. According to Bryant, Longmore saw only one case of recovery in the Crimea, and Dr. Otis records four recoveries in America out of thirty-two cases. No. 3 Circular of the Washington War Department records four recoveries out of fifteen from this form of injury.

These statistics, coming from the source they do, are quite sufficient to indicate the fatality of this injury—that is, wounds of the liver generally, some of which may not be penetrating.

J. G., aged 42, shot himself with a revolver on the morning of the 15th of last January. He was admitted to the hospital shortly after the attempt at suicide. He was very much collapsed, both from hæmorrhage and shock, and added to this a deal of nervous excitement. The bullet, a conical-shaped one, had penetrated the body in the right mammary line in the eighth intercostal space, and was extracted in the afternoon by a counter incision close to the right side of the spine on a level with the transverse process of the first lumbar vertebra. A drainage tube was passed through this opening for about four inches, in a direct line with wound of inlet. During this operation there was no escape of bile. This fact is quite in accordance with authorities on this injury. The wounds were rendered aseptic, and a dry dressing applied. At the end of three days the drainage tube was removed, and

the wound healed quickly. The skin round the wound of inlet, for about a quarter of an inch, sloughed and healed by granulations. During convalescence there was some slight jaundice and peritonitis. The patient was discharged on February 8th. About the 20th of February he complained of a pain about the right shoulder; for this several applications of iodine were applied with good effect. When I last saw him he was able to go about as well as he did before the injury. Shortly after admission his temperature was 98.4°, and the following day 102°. For ten days it varied between 99° and 101°, and on the 27th it fell to 97.2°, gradually regaining the normal, and remaining so with very slight variations. For the first 24 hours his pulse varied from 99 to 160—this, his highest pulse-rate, was at 6 p.m. on the day of admission, and the 99 at noon on the following day. It kept varying very much up till the 29th. His respirations varied just as much as his pulse-rate. At midnight on the day of admission they only recorded 10 per minute, and at 6 p.m. the following day were 32; and so they varied till the 29th. His temperature, pulse and respirations were taken every two hours for the first three days, and after that every four hours till the 26th. The bullet must have passed directly through the liver.

"Giving the Quilt."—The Queen, says *Hearth and Home*, is an expert and indefatigable knitter. During the Egyptian campaign she and the ladies of the Household employed themselves in knitting quilts, which, at the end of the war, were sent to Netley Hospital for the use of the wounded. One of these, made entirely by Her Majesty, and bearing an elaborate V.R. in the centre, was the coverlet *par excellence* of the institution, and in universal demand for a time. In assessing the claims of the candidates for the honor of sleeping under it, the medical staff naturally gave the precedence to the most severely wounded, and as the most severely wounded was the one most likely to die, very soon, alas! an evil omen attached itself to the distinction, the climax of which was reached one night, when a poor soldier, feeling someone touching his bedclothes, woke up with the perspiration pouring down his face, and cried out, "Oh, sir, do anything you like with me, but for God's sake don't give me the quilt!"

THE

Montreal Medical Journal.

VOL. XXII. SEPTEMBER, 1893. No. 3.

CANADIAN MEDICAL ASSOCIATION.

The Twenty-sixth Annual Meeting of the Canadian Medical Association will be held in London on Wednesday and Thursday, 20th and 21st September, under the presidency of Dr. Sheard, of Toronto.

It is to be hoped that the interest hitherto taken in the meetings of this Association will be increased this year, and, judging from the communications received and papers promised, the success of the meeting is already assured.

Members desirous of reading papers will please communicate with the General Secretary, Dr. Birkett, Montreal, at an early a date as possible.

The following papers have already been promised :—

Address in Surgery—W. H. Hingston, M.D., Montreal.

Address in Medicine—A. McPhedran, M.D., Toronto.

Treatment of Chronic Endrometritis—Dr. Conerty, Smith's Falls.

Sanitary Science: Some of its Features—Dr. Canniff, Toronto.

An Angioma of the Eyebrow—E. King, M.D., Toronto.

The General Practitioner and the Insane—E. Anglin, M.D., Verdun.

(1) Some Recent Changes in British Criminal Law; (2) Reform in the Coroner Law—Wyatt Johnston, M.D., M. F. Quinn, Esq., Q.C., Montreal.

Is Alcohol in all Doses and in all Cases a Sedative and Depressant?—J. Harrison, M.D., Selkirk.

Displacement of the Kidney—F. Eccles, M.D., London.

Thyrotomy for a Large Sub-Cordal Spindle-Celled Sarcoma, with presentation of case—H. S. Birkett, M.D., Montreal.

Some Measures for the Prevention of Tuberculosis—P. H. Bryce, M.D., Toronto.

———J. H. Hilliary, M.D., Aurora.

Some Unusual Conditions met with in Hernia Operations—James Bell. M.D., Montreal.

Cosmia Consciousness—R. M. Bucke, M.D., London.

The Prophylaxis and Treatment of Puerperal Eclampsia—C. T. McKeough, M.D., Chatham.

——— T. K. Holmes, M.D., Chatham.

Three Cases (two sisters and a brother) of Friedreich's Ataxia to be presented—Geo. Hodge, M.D., London.

COLLEGE OF PHYSICIANS AND SURGEONS OF THE PROVINCE OF QUEBEC.

The examination for admission to the study of medicine will commence on Thursday, the 21st instant, at 9 o'clock a.m., in the rooms of the Medical Faculty of Laval University, in the city of Quebec. The semi-annual meeting of the Board of Governors will be held on Wednesday, the 27th instant, in the above place.

AMERICAN PUBLIC HEALTH ASSOCIATION.

The twenty-first annual meeting will be held under a plan which will differ very materially from that of any former meeting of the A. P. H. A. Through an arrangement entered into by the World's Congress Auxiliary and this Association, the forthcoming meeting will constitute an International Congress of Public Health, and committees are already at work to make it a grand success. Invitations have already been extended to foreign countries to participate in the meeting, and to the most prominent sanitarians throughout the world to present papers.

The regulations which will govern this meeting are outlined in this circular. Particular attention is called to the fact that the meeting will be held in sections; therefore, persons presenting papers will note under which section their paper will properly come. The classification given under each section will also suggest the topics upon which papers are desired.

It is suggested that members who intend to visit the World's Fair postpone their trip until the meeting of this Con-

gress, as there will be no better month in which to see the Fair. Another circular will be issued before the meeting, giving additional particulars.

The following is from the circular issued by the committee having in charge the details of the forthcoming meeting:

This Congress will be in session in the Art Institution Building, Chicago, October 9–14, 1893.

Membership in the Congress is open without fee to all persons interested in public health, who comply with the formalities of registration.

The proceedings will be published by the American Public Health Association, and will be distributed to all members of the Congress, who, on the payment of five dollars and election, may become members of the American Public Health Association. This payment of five dollars entitles the member to a copy of the proceedings, is the only fee required, and is entirely voluntary.

Registration may be conducted in person or by correspondence, and it will facilitate the work of the Congress for this to be accomplished as early as possible. To that end an official will be present in the Art Institute to attend to registration every day during the preceding week, October 2–7, from 9 to 5 o'clock, and again on Monday, October 9, during the same hours. Registration may also be accomplished later, according to placards in the hall.

Correspondence on this subject may be addressed to "The Registration Clerk, Public Health Congress, Art Institute, Chicago." Checks should be made payable to the Treasurer, American Public Health Association.

Registration consists in recording the name, including designating titles; the official representation, if any; the permanent residence; and the local address (this may be omitted or changed at discretion). The particular section the member wishes to work with will also be noted. No charge is made for registration.

Special business meetings of the American Public Health Association will be held each morning, including Monday, October 9, and also at 4 p.m. Monday, October 9, for the election of members.

The opening session of the Congress will be held in one of

the large halls of the Institute, at 8 p.m. Monday, October 9, and will be devoted to addresses of welcome by the President of the World's Congress Auxiliary, by the Mayor of Chicago, and by the President of the American Public Health Association, and to responses by foreign delegates. These will be followed by the Inaugural Address by the President of the American Public Health Association.

The mornings of Tuesday Wednesday and Thursday, from 10 to 12 o'clock, will be devoted to discussions in general of the meetings of the Congresses upon the following topics:

Tuesday.—Diseases chiefly manifested in the air passages: Tuberculosis, Diphtheria, Pneumonia, their prevention or control through Public Health Service.

Wednesday.—Diseases affecting the alimentary canal: the Diarrhœa of Childhood, Cholera, Enteric Fever.

Thursday.—The Eruptive Fevers: Small-Pox, Measles, Scarlet Fever, and the diseases of modern life due to nervous conditions.

Friday morning will be given up to a business meeting of the American Public Health Association.

The general meeting of Saturday morning will close the Congress.

The afternoons of Tuesday, Wednesday, Thursday, and if necessary Friday, will be devoted to the work of the Congress by sections as follows:

I. International, National and State Hygiene: Its Methods and Relations, including Vital Statistics. ("State," as here used, indicates an autonomous part of a nation, as a kingdom of the German Empire, an integral State of the American Union.)

II. Municipal Health Service. To include the control of the infectious diseases of men and animals, offensive trades, water supply, the disposal of excreta, garbage and the waste of manufactories, schools and public assemblages.

III. The Infectious Diseases of Men and Animals: Their Causes, Prevention and Control.

There will also be general meetings of a popular character at 8 p.m. on Tuesday, Wednesday and Thursday, when addresses will be delivered on public health subjects of general interest. The object of these is to disseminate general infor-

mation on such subjects as: The prevention of infectious diseases; the causes of ill-health due to soil, air and water; the health and sickness of self-supporters (workers).

All papers that are offered must be received by "The Secretaries of the Public Health Congress, Chicago, Ill.," before September 15, 1893, and titles and abstracts of these by September 1.

Papers for the Congress not written in English should be accompanied by an English translation.

The time for reading a paper in a section is limited to fifteen minutes, except when illustration is required or where special extension is granted, when five minutes may be added in each instance.

Thirty minutes is the extreme limit of a paper in the general session. Members desiring to discuss subjects before the Congress must send their cards to the presiding officer in order to be recognized. The floor may not be occupied for more than five minutes.

It is desired to make the Congress a demonstration of practical methods, and papers on elementary topics or theoretical views cannot be accepted. Papers bearing on the objects of the Congress are solicited from every source, but their acceptance must depend on the approval of the committees in charge of the Congress. These committees are guided in this matter by the standing rules of the American Public Health Association. Resolutions of praise or censure, or committing the Congress as such to special views, will be out of order.

The President of the American Public Health Association, which embraces the Dominion of Canada, the Republic of Mexico and the United States, will be the President of the Congress.

Honorary Presidents will be appointed from other countries.

Vice-Presidents of the Congress and of the sections will be made from the countries represented.

All persons from beyond the United States who anticipate being present are requested to notify the secretaries as early as convenient. It will materially assist in the organization for the committees to be informed by October 1 of the Americans who expect to attend.

IRVING A. WATSON,
Secretary.

CONCORD, N.H

THE WILLIAM F. JENKS MEMORIAL PRIZE.

The College of Physicians of Philadelphia announces that the third triennial prize of five hundred dollars, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on "Infant Mortality During Labour, and its Prevention."

The conditions annexed by the founder of this prize are, that the "prize or award must always be for some subject connected with Obstetrics, or the Diseases of Women, or the Diseases of Children;" and that "the Trustees, under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said Trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia."

The prize is open for competition to the whole world, but the essay must be the production of a single person.

The essay, which must be written in the English language, or, if in a foreign language, accompanied by an English translation, should be sent to the College of Physicians of Philadelphia, Pennsylvania, U.S.A., before January 1, 1895, addressed to Horace Y. Evans, M.D., Chairman of the William F. Jenks Prize Committee.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays, if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

James V. Ingham,
August 1, 1893. Secretary of the Trustees.

AMERICAN DERMATOLOGICAL ASSOCIATION.

The Seventeenth Annual Meeting of this Association will be held at Milwaukee, Wis., on September 5th, 6th and 7th, 1893. The following papers have been promised: Antiseptic Treatment of Skin Diseases, by Dr. C. W. Cutler. The Principles of Antisepsis in the Treatment of Eczema, by Dr. H. G. Klotz. Cosmetics, by Dr. R. B. Morison. A Case of Tuberculosis of the Skin simulating Lupus Erythematosus, by Dr. W. A. Hardaway. A Case of Rhinoscleroma, by Dr. G. T. Jackson. Atrophia Maculosa Cutis, with a case, by Dr. W. T. Corlett. General discussion on: Pityriasis Rosea—(*a*) Its etiology; (*b*) Its relation to ringworm, seborrhœa, eczema, etc.; (*c*) Its treatment. Dermatitis Exfoliativa: (*a*) Its clinical forms; (*b*) Its etiology; (*c*) Its treatment. What do we understand by Pemphigus? A Contribution to the Pathology of Acne Varioliformis, by Dr. J. A. Fordyce. Angiokeratoma, by Dr. J. Zeisler. Subject to be announced, by Dr. M. B. Hartzell. Dr. H. R. Crocker, of London, will read a paper on "Lupus Erythematosus as an Imitator."

JEAN M. CHARCOT.

J. M. Charcot, the distinguished French physician, died at Morvan, in France, on the 17th of August, aged 68 years. Charcot was not only a distinguished neurologist, but also an able general physician. His publications on diseases of the kidneys, liver and chronic joint affections display the qualities of a master mind. His name will, however, be chiefly remembered in connection with diseases of the nervous system. His contributions to this department of medicine are voluminous and very important. The subject of hysteria he made particularly his own. As Director of the Hôpital la Salpétrière, he had great opportunities for studying disease, and made good use of them. Fortunately, he has established a distinct school of neurologists, to whom we owe much and from whom we expect much in future, althoughthe great master has passed away.

Literary News.

A New Medical Dictionary.—A completely new Medical Dictionary is announced for early publication by Lea Brothers & Co. The author, Dr. Alexander Duane, of New York, is already widely known as the medical expert for Webster's International Dictionary. His new work has been drafted to supply medical students with all desired information concerning the words they will meet in their course of reading, and as the vocabulary has been selected most liberally, the work will be of value to practitioners also. The pronounciation of each word is given by a simple and obvious phonetic spelling; then follows the derivation, an unexcelled aid to memory, and finally a full definition. Descriptive matter has been appended to such words as cannot be adequately explained by simple definition. Thus diseases are described, and their symptoms and treatment are given; drugs are followed by their properties, effects, doses, etc. Extensive tables of bacteria, doses, etc., are placed in the alphabet most conveniently for reference. A work of real value is promised, and we shall take an early opportunity of reviewing it in this journal.

Gray's Anatomy, New (13th) Edition.—Another edition, the thirteenth, of this standard work is announced for early publication by Messrs. Lea Brothers & Co. It is hardly too much to say that this work has been the most popular of all medical text-books whatever since its first appearance in 1851. Its text has been revised successively by the foremost anatomists of a generation, and the present edition embodies whatever changes were necessary to make it represent its advancing science. The illustrations have always been noted for their clearness. Their large size has rendered it possible to print the names of the parts directly upon them, thereby indicating not only their names, but also their extent—a most important matter. A liberal use of colors has been made to secure additional prominence for certain parts. Notwithstanding these improvements, the constantly increasing demand has justified a reduction in the price of the colored edition. An early review will appear in this journal.

THE

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Original Communications.

THE PROFESSION, THE PUBLIC AND THE CODE.

AN ADDRESS DELIVERED BY INVITATION BEFORE THE THIRD GENERAL MEETING OF THE PAN-AMERICAN MEDICAL CONGRESS, WASHINGTON, SEPT. 7, 1893.

BY ERNEST HART, D.C.L.,
Hon. Causâ, Editor of the British Medical Journal, London; formerly Dean and Ophthalmic Surgeon, St. Mary's Hospital, London.

(*Stenographic Abstract.*)

Sir Astley Cooper, one of the greatest surgeons and most accomplished gentlemen of the last generation, was in the habit of addressing every candidate for membership of the Royal College of Surgeons of England, of which he was president, somewhat in the following words: "Gentlemen, you are about to enter on a noble and difficult profession; your success in it depends on three things: first, on a good and thorough knowledge of your profession; second, on an industrious discharge of its duties, and third on the preservation of your moral character. Without the first—knowledge—no one can wish you to succeed; without the second—industry—you cannot succeed; and without the third, even if you do succeed, success can bring you no happiness." Those words might form a very adequate summary text for guidance of the conduct of all medical men. And it might conceivably be asked whether there is any necessity for a more detailed and elaborate code. Indeed, it practically has been asked, and there are

large questions involved in the decision. On the other hand, it has, from time to time, lately, in our country, been found necessary to reinforce and strengthen our code by additional declarations, and I think to some extent in yours ; the need for a stringent upholding and development of the code has also become a question of the day. I think it is clear that if ever there were such necessity, at no time could it be stronger than at the present moment. For under the stress of the modern social development, under pressure of the modern temptation for advertising and the severity of competition, in view of the arts of those who make advertisement a business and a profit ; in presence of the temptations held out to draw medical men from the ancient paths of modesty and self-effacement, there are now stronger reasons than ever to fortify ourselves against growing and innumerable seductions by a code so exact, so far reaching, that the physician need never be in doubt as to what is his duty in any complication, or in the face of any doubtful case in which he may be inclined to give himself the benefit of the doubt.

But, first of all, I want to elaborate the view that our rules of medical etiquette stand upon a logical and strong basis, and that their strict enforcement is for the benefit of the public, at least as much, if not even more, than for the benefit of the profession. Medical etiquette has been sneered at by shallow cynicism as mere trades unionism. It is, on the contrary, a self-denying code which is made in the interests of pure morality, and for the benefit of the public far more than for the interests of the profession. This allegation of trades unionism is the converse of that of inutility, which those who are prone to call themselves of the younger school allege ; but not even the youngest of us, as you know, are infallible, and in this matter it is the youngest who are most likely to go wrong. They proclaim themselves liberals. Is it, however, in some cases, the liberalism of Gallio? Let us look at this matter from the largest and most liberal standpoint. Let us begin by comparing our code with the standards of the legal profession.

My distinguished friend, Sir Edward Clarke, lately the

Solicitor-General of England, in writing to me on the subject recently, said the essence of the matter might be summed up in a very few words: "Every lawyer ought to be a gentleman, and ought to do only what is right and honest; if he does not, other men should have nothing to do with him." That position of the bar is strengthened by this, that the etiquette of the bar is absolutely in the hands of the bar circuits and attorney-general, and that of the solicitors in the hands of the Incorporated Law Society; so that any solicitor who is guilty of an offence, whether as a lawyer or as a gentleman, can be, and from time to time is, not only temporarily suspended, but deprived of the right to practise at all. In a case tried last July in England, a solicitor in a certain town had been the proprietor of a house used for an immoral purpose, of which he received the rent. That was considered a stain upon his character as a gentleman, and for that he was suspended from the roll and excluded from practice. So that we have at least the example of the legal profession, who have a code even stricter than ours, in insisting upon a high standard of honorable conduct in the profession.

Legal etiquette prescribes certain technical acts which a lawyer must not do. An eminent American lawyer, whom I had the pleasure of meeting, mentioned to me, for example, that he may not conduct a "speculative suit;" that is, he may not conduct a suit in which his pay is to depend on the success of the suit—a palpable restriction of his liberty. Liberty is a blessed word, but compulsion is, under certain circumstances, often a more blessed word. The reason for this rule is, that if a lawyer undertakes such a suit he becomes personally and financially interested in the result, and may be tempted not to give the court all the aid which is his duty, or may in the end lose the relations of harmony and respect which are indispensable between the court and the lawyers, who are officers of the court and are bound to help Justice to duly balance its scales.

In the same way "champerty" is a legal offence. So, too, no respectable lawyer will give separate advice upon a case

which is already in the hands of a colleague. As between advocate and advocate, harmony, courtesy and the forms of friendship must prevail; and at any time they must, in the interest of the client, be able to come together and to seize the earliest opportunity of avoiding litigation by compromise or mutual settlement, where it is possible and right. The etiquette of the bar is very strict, and is closely observed.

Legal etiquette is, like medical etiquette, a code of honour and of duty by which the public benefit; and those who depart from it or deride it—" legal shysters " I think they are called in the United States—are not, any more than medical quacks, those of whom their country or their profession have reason to be proud.

I will pass at once to the consideration of our code of medical etiquette. I will ask you to consider whether you are of the opinion that it is safe or wise to cast aside the precedents of past experience and to substitute individual judgment for settled rules. If man were a purely abstract and perfectly moral intelligence, no doubt few words would suffice to legislate for his daily needs. Enough to say, " Do unto others as ye would they should do unto you."

But medical men are not pure creatures of perfect and abstract morality any more than other men. They have, indeed, certain advantages from the outset. From the very beginning of their professional life it is impressed upon them, by their teachers, that their profession is *a mission and not a trade*; a mission involving frequent self-sacrifice and a steadfast regard for interests other than their own. In this they are greatly helped by the force of precedent, by the example of those around them, and of the leaders whom they most respect. But even these are inadequate. Without the aid of the written as of the unwritten law, even the best of men are apt to decide *wrongly in their own favour*, on a doubtful question of ethics, and often in matters and cases where there are settled instructions in the code which would guide them rightly.

Let me read to you a few of the rules of our College of Physicians, which command with us a universal adhesion and

respect. I do so only as an example of the conclusions to which many years of observation of the impingement of the forces of modern life on professional duty have led some of our wisest heads. I will refer only to a few as follows:

"No candidate shall be admitted to examination who refuses to make known, when so required by the President and censors, the nature and composition of any remedy he uses."

"That the practice of medical authors frequently advertising their own works in the non-medical journals, and especially with the addition of laudatory extracts from reviews, is not only derogatory to the authors themselves, but is also injurious to the higher interests of the profession."

Again, "No fellow, member, or licentiate of the college shall officiously, or under colour of a benevolent purpose, offer medical aid to, or prescribe for, any patient whom he knows to be under the care of another doctor."

A further rule prescribes that no physician shall himself assume any special designation of therapeutic method, such as homœopath, electropath, hydropath, or countenance those who do so.

Again, "A physician shall have no interest in a secret medicine, and that he shall always when called upon by the college disclose every part of the composition of his medicines."

"If it shall at any time hereafter appear, or be made known to the president or censors that any fellow or member of the college has obtained admission into the college or that any licentiate of the college has obtained the license of the college by fraud, false statement, or imposition, or that any fellow, member or licentiate has been guilty of any great crime or public immorality, *or has acted in any respect in a dishonourable or unprofessional manner*, or has violated any statute, by-law, or regulation of the college, relating to fellows, members, or licentiates, as the case may be, the president and censors may call the fellow, member, or licentiate so offending before them, and having investigated the case, may admonish or reprimand, or inflict a fine; or if they deem the case of sufficient importance, may report the case to the college, and thereupon a

majority of two-thirds may declare such fellow or member or licentiate to be no longer a fellow, member, or licentiate, as the case may be, and his name shall be expunged."

Let us consider now those restrictions which operate to forbid a medical practitioner to consult with "homœopaths," and of which the wisdom has been by some disputed. We do not believe, and we cannot appreciate the medical capacity or fitness to undertake the treatment of disease of those who hold that drugs which given internally will produce certain symptoms of disease are the appropriate remedies for those maladies. For instance, medicines which produce skin reddening for erysipelas; leucorrhine for leucorrhœa; syphiline for syphilis. We do not agree that all chronic maladies arise from syphilis, sycosis, or itch, and that medicines act with an intensity proportionate to the infinite diminution of the dose; or that there is any utility in prescribing, in accordance with these principles, say a decillionth part of a grain, when we all know that a dose so small, if taken by every being on the globe once a minute would not finish the grain in thousands of years. Nor, again, do we believe that the activity of medicine increases in the ratio of the number of shakes given to the vessel containing it. We hold that we have nothing in common with those who assume to base their practice and theory on this kind of therapeutics. Being well assured that these methods and this theory are absolutely delusive, the negation of reason and the acme of folly, it would be useless, deceptive, and contrary to good faith and the public interest that we should pretend to consult with those who profess them and who take a designation derived from them, and to cover with the respectability of logical science what they are pleased to term their system of treatment. Faith curing, it may be, but in that too we can take no part under false pretences.

But then it is said, What if the physician or surgeon of good standing is only called in by the homœopath to assist in diagnosing the nature, the stage, the complications, or name of the disease? Ought he not to give this help for the patient's sake? The answer is, the physician is a healer; not a reader of riddles

nor a conner of conundrums. He is there not to give a name to symptoms or pathological conditions, but to heal the patient; and if he knows that his solution of the riddle is not to be followed by a method of treatment which he considers capable of attaining that result, he would be infamously wrong, and he is always wrong when he gives the cover of his accepted position, of his recognized ability, and of his professional sanction, to what becomes under such circumstances a dangerous farce or a deliberate fraud. The riddle is read, bnt the patient is none the better.

But it is said, May a regular medical practitioner not be called in to perform a difficult surgical operation? If a surgical operation meant only cutting, sawing and sewing, it would be a plausible excuse for the surgeon accepting the responsibility of acting as sawbones to a quack. But there is no surgical operation which does not in its preliminary stages, and may not in its various phases and sequels, require concomitant medical consideration and treatment, or in which septic, constitutional, or accidental complications may not arise. The surgeon cannot honourably, in the interest of his client, divest himself of the responsibility for the wise and faithful treatment of these as an essential part of his operative interference.

I have used the word quack. It is a word often used now in too restricted a sense. This is Dr. Johnson's definition of a quack: "A boasted pretender to arts which he does not understand; a vain, boasting pretender to physic, one who proclaims his own medical abilities in public places; an artful, tricking practitioner in physics." This strikes at the root of the matter, now as then. Observe, here is no distinction between those who have degrees and those who have not. The great lexicographer makes no distinction; neither do I.

The essential note of the quack is love of advertisement. The public "places" of Dr. Johnson's time were the coffee-houses; they are now the newspapers. Now what are the ways in which the diplomaed quacks adopt the methods and becomes the imitator, the rival, the accomplice of the undiplomaed? You may know them by their works. They are the gentlemen

who put themselves forward to be interviewed, and are the sham Jupiters and willing Mercuries of the newspaper world. They confide to the ubiquitous reporter what is their opinion of the last new bacillus, the last new anti-toxine, or invite reporters to their amphitheatre and hospital ward. All this is only an outcome of the venal desire for advertisement. They are the gentlemen who, if they have the good fortune to attend a prize fighter, or a ballet girl, or the ruler of a State, are not slow to disclose the secrets of the sick-room, and all for the public good.

Now, in the venerated Oath of Hippocrates, which is the foundation of our code of to-day, the disciple swears to impart the knowledge of his art to others according to the law of medicine, and to share with his colleagues by precept and every other mode of instruction all that he knows. He further binds himself that he will have *no medical secret*, that he will practise his art and pass his life with purity and holiness, that he will abstain from every voluntary act of mischief and corruption, and that *whatever in connection with his professional practice* he sees or hears in the life of men which ought not to be spoken of abroad he will not divulge. "While I continue to keep this vow unviolated may it be granted to me to enjoy life and the practice of the art respected by all men and in all times. But should I violate this oath may the reverse be my lot."

This is the spirit of the modern British code, and I know well it is yours also.

We have dwelt as long as time will allow on the considerations of public utility and professional duty which oppose consultations with homœopaths and their congeners; nor can I stay long to discuss the prohibition of open advertisement. The advertisement in the lay press of medical books intended for the profession; the submitting of technical books for review; the public criticism of the treatment of any disease or person; the thousand and one acts, in fact, by which the advertising surgeon physician seeks to gain the ear and favour of the public by means of notoriety or self proclamation in place of hard honest work, real professional worth, and the judgment of those

whose knowledge makes them alone competent to judge. Self advertisement is the note of the quack. It is as dangerous to the public as hateful to the profession; for it misleads the masses by substituting easily purchased notoriety for merit, and covering by loud talk and bombast and plausible pretences the emptiness of the shallow pretender. It covers also with a pseudo respectability the venal corruption by which whole columns and pages of reading matter of the newspaper are very frequently devoted to quack nostrums and "treatments"—save the mark—often of the most fantastic, false and dangerous character. It destroys the landmarks of honour and reticence, when in successive numbers of the daily and weekly papers are found the lucubrations of these pests of society, and, along side of them, the interviews, the explanations, and the descriptive narratives put forth for the public good by reputable physicians, *apropos des bottes*, but hardly-veiled self-advertisement.

It is, however, only fair that the physician should have notice of the offence or its penalties, and that this salve which he puts to his conscience should be rubbed off. Hence the value of "A Code." We have seen that the medical man is prohibited from deriving any profit directly or indirectly from any medicine which he uses or recommends, and from tampering, however remotely, with secret medicines. If this were merely an arbitrary rule, if it were not at least as much for the benefit of the public as well as for the practitioner, there might be ground for calling it in question. But it is a rule of the highest public import.

That a healer, whose judgment in prescribing should be clear and unbiased, should possess and profit by a secret remedy is as obvious a source of public peril as it is a heinous offence against professional morality. Every physician has a traditional and immemorial right to expect from, and he is bound to give to, his fellow practitioners every possible aid and assistance in the treatment of disease and in the healing of the sick. He has received such knowledge from his predecessors; he daily and continually receives it from his colleagues and contemporaries, to whose knowledge and experience, and from the results

of whose investigations (openly stated and submitted to critical discussion) he owes the great bulk of his knowledge and of his ability to practice at all.

A new method of treatment, a new drug, or a new dogma in medicine is like a new doctrine or a dogma in theology. The one is as much the means of physical salvation, as the other is of spiritual salvation. The man who keeps either of them to himself, as a profitable secret for his own mean gain, is a traitor to his profession ; he is also a traitor to humanity, and he is false to his mission. It is fitting that the code should provide for such cases and that the penal clause should not remain a dead letter.

But it is sometimes suggested that the usefulness of the "secret" drug may be so great as to overpower and outweigh morality, and call for its prescription. I put it to you all, is there any foundation for such an assumption in the whole history of medicine ? In the whole history of the past, can we recall any example of a secret medicine which had aught but the most insignificant value, or could not easily be replaced ? We may take even the most famous, such as the famous remedy of Mr. Stephen for dissolving stone in the bladder, for the divulging of which eminent men petitioned Parliament for a grant of £5,000. It was granted, and what do we read of the remedy when divulged ? That it consisted of calcined egg-shells or of lime obtained by a filthy and obscene process. Naturally, and like *all* secret remedies when divulged, it ceased to cure. Hartley—the famous Dr. Hartley—one of the most strenuous supporters of the grant, died of stone in the bladder, after taking two hundred pounds of the remedy. In our day there is no such thing as a secret remedy in the true, or in any other than the trade meaning of the word. We doctors know the composition of all of them. They are secret only to the gullible public to whom they are to be sold. Pain annihilators, blood purifiers, vegetable and animal extracts, botanical nostrums, invigorators, electric belts, amulets and chains, Asiatic, African pills and phials, "green, blue and yellow electricity"—there is nothing secret about them.

When examined in our private or public laboratories, they are all found to be commonplace in composition, or if they have anything not well worn in use, it is merely the name of some indifferent or trivial matter—Indian grass or African leaf added, most often, and chiefly for the sake of novelty. These secrets are trade devices, with which we are not concerned. Let us visit those physicians who dabble in them with the severity of the code. I don't think that is asking more than is due to the honour of the professional body and the welfare of the people.

In respect, then, of secret medicines, at least, the world has up to this date lost nothing by the stern and scornful disapproval with which the medical profession regards these tricky nostrums, and by the punishment with which they visit, and always ought to visit, those who sell the honour of their calling and the free communication of medical knowledge which is the birthright of mankind for some mess of commercial pottage.

Finally, I will say a word or two of what is known as the etiquette of consultation. The patient, it is said, and is said cogently, has the right to determine whom he shall consult and to change his medical advisor if he desires so to do. No one will dispute that. But, like other rights, it is limited by the legitimate claims of others; and a medical practitioner may justly object if he shall be, without explanation or courtesy, superseded in attending on a case. In such event, moreover, the superseding practitioner is morally and ethically bound to take due care that the same courtesy and respect which he individually would expect to receive be paid to his discarded colleague, not only by himself, but by those who have professionally consulted him.

Every day cases of this kind occur; few days pass without bringing to me some complicated question arising out of them. The pages of our *British Medical Journal* are full of such questions. Very often, all I have to do is to say, "See Code, page so and so, section so and so," and that decides both the practice and the principle. Probably if that is the case with us, it might occur here also, and not less frequently. Of one

case I became cognizant here only the other day. An eminent doctor in a capital city of the United States of America was called in, came and saw a patient severely ill, said he would return; when the family physician returned in the evening, he was told, "But you are not any longer in charge; Dr. so and so has charge of the case." He said, "But I don't understand; I was here this morning." "Well, it was the particular wish of —— that the consulting physician whom you called in shall take charge, and you are not wanted." Exit family doctor.

Once more, our College of Physicians explicitly directs that the physician called in to consultation by a brother practitioner shall not express directly to the patient his individual views and the conclusions at which he arrives, but that whatever he has to say shall be said after consultation with the practitioner, and through his mouth; that he shall behave with the utmost courtesy and forbearance to such practitioner, to whom shall be left all explanations and statements of the conclusion resulting from the consultation. Were it otherwise, were consultants authorized to supersede or to snub the family doctor, the public client would be the first to suffer. For anything which creates ill-will or unnecessary friction between consultant and family practitioner tends to limit the range and frequency of consultations. Therefore, it is forbidden to the consultant called in subsequently to assume the sole charge of that patient, however he may be entreated to do so, or under whatever inducement. Were it otherwise, the attending or family physician could not call in a consultant without the fear being before his eyes of losing the charge of his patient. There would arise at once the temptation to limit and restrict consultations, and this would be an impediment in the way of ascertaining the best means of cure by consultatisn. The strict observance of such rules and of the whole code as to consultations may sometimes be something of a personal trial to the patient, something of a personal loss to the consultant; but it is a rule which is of infinite importance to the public welfare.

The maintenance of a high standard of professional honour,

the acceptance, adoption and enforcement of a detailed code of professional etiquette, the agreement by all and the observance by every individual of the whole range of limitations and restrictions which are set up by that code, and by the logical deductions from it—these things are, I contend, demonstrably as valuable to public welfare as for any professional interests concerned or supposed to be concerned.

I infer from the repeated and enthusiastic plaudits with which you have honoured me that the opinions and conclusions which I have ventured to bring before you have agreed with your sentiments, and are accepted by you sympathetically, and that you consider them opportune and proudly useful.

I have been encouraged by your continuous signs of general and warm approval to speak at greater length than I had intended. But there is yet much more to say. In thanking you now for this most gratifying ratification by the unbroken plaudits of this representative general meeting of the argument which I have ventured to state, it seems to me of great importance to such progress or fair ethical development, I will only add that I shall be most happy to hear privately from any one who has doubts to solve or arguments to suggest, either for or against or in supplement of those which I have developed before you.

ONE HUNDRED CASES IN THE CORONER'S COURT OF MONTREAL, 1893.

By Wyatt Johnston, M.D., Montreal.

(Continued.)

II.—Death by Poison (7 Cases.*)

Of the series of 100 cases death was assumed to be due to poison in 7, or 7 per cent. Of these deaths 4 were suicidal and 3 accidental. The nature of the poison was Paris green in two cases, Rough on Rats, chloral, chloroform, copper sulphate and lighting gas each in one case.

In the matter of demanding an official analysis the medical expert is placed in rather an awkward position, as special per-

* Reference has also been made to a few other cases which came under my notice during the same period.

mission has to be obtained from the department before this can be done. This necessitates an adjournment of the inquest and a considerable increase in the expense, although the modest fee of twenty dollars which is allowed as a minimum for the chemical examination in ordinary cases is too low to permit of any good chemist and analyst profitably undertaking the work.

It is not well understood that, on general principles, the motive for desiring an analysis is simply that the cause of death is not satisfactorily explained either by the autopsy or the other evidence at the inquest. In other words, when an autopsy is performed without decisive results the expert cannot feel certain that poison has not been the cause. In such cases I have made it a practice to state that it " could not be determined by the autopsy whether poison had been taken or not, and *if the other evidence suggested poisoning* an analysis had better be made," thus leaving the matter in the hands of the jury, who should be, of all persons in the world, best qualified to decide the question. It would be better if preliminary qualitative analysis (for a small fee) could be made in all doubtful cases, but under the present jury system this course is impracticable owing to the delay involved.*

A further disadvantage lies in the fact that at present we have no means in Montreal of freezing the suspected organs so as to check the progress of decomposition. Organs left at the ordinary room temperature soon develop putrefactive alkaloids, which closely resemble those of the vegetable poisons, while at the temperature obtained in an ordinary refrigerator, though the development of these ptomaines is less abundant, their composition and reactions resemble still more closely the toxic alkaloids. On the other hand, the more unstable vegetable alkaloids, and especially morphine, rapidly become decomposed and elude chemical analysis. In *frozen* tissues they remain unchanged for an indefinite period, so that nothing is risked by delaying an analysis except the results as regards volatile substances (prussic acid, chloroform, chloral, etc.)

* I have to thank Dr. R. F. Ruttan for having kindly made qualitative analyses for me in several obscure cases.

My notes upon the cases of poisoning are as follows:

ARSENIC.

No. 30.—C. S., male, aged 40. Heavy drinker. Stated to have taken a large quantity of Paris green, with suicidal intent. Removed to hospital two hours later, when emetics and demulcents were given, with the result of inducing vomiting of a large quantity of greenish fluid. Moderate diarrhœa. The patient rallied at first, but afterwards died, six days later, in hospital.

It was suspected that the patient had obtained a fresh supply of the poison, and an autopsy was ordered, which revealed a moderately severe reddening and swelling of the mucosa of the stomach and intestines. No ulceration. No traces of the poison were visible to the naked eye. Other organs normal. No analysis ordered.

Verdict.—Death from suicide by taking Paris green.

No. 29.—C. G. S., male, aged 55. Had been acting strangely for about a year, but was able to attend to his business. Found about four hours after taking a large quantity of Paris green. A series of doses of sulphate of zinc were given, amounting in all to 160 grains, with mustard and mucilage. This was followed by violent and long-continued vomiting. The patient died from exhaustion.

Autopsy.—Walls of stomach intensely reddened and swollen, being nearly ¾-inch thick through, and œdema and hæmorrhage into the submucosa. Surface of mucosa dark brownish-red, and covered with a brownish, shreddy, sloughy coat. Particles of bright green pigment seen lying on surface. The seproved, on chemical examination by Mr. Wolff, to contain both arsenic and copper. Mucosa and submucosa of small bowel intensely reddened and swollen, especially in the duodeum, which shows numerous bright green grains. Scattered particles of this substance are also seen throughout the whole intestinal tract as far as the rectum,

In the brain, symmetrical cystic spots of softening, involving both internal capsules and reaching from opposite the head of optic thalami back as far as pineal glands.

Conclusions.—1. Death has been due to an irritant poison. Particles of Paris green are found in stomach and intestines. 2. The condition of the brain is such as would probably be attended by mental weakness.

Verdict.—Suicide while insane.

(In my limited experience of arsenical poisoning, comprising about a dozen autopsies, I have never met with such intense inflammation and hæmorrhage of the stomach, and am inclined to attribute it partly to the repeated doses of emetic given.)

Case 32.—M. G., female, aged 50. Died two hours after taking a dose of Rough on Rats. Known to have had the poison in her possession for several weeks, and supposed to have taken some during that period. Symptoms.—Vomiting, diarrhœa and collapse. Treated by emetics and stomach-pump, with dialysed iron.

Autopsy.—Stomach: Mucosa reddened, punctiform ecchymosis at pylorus, contains 6 oz. of rusty-looking fluid (iron.) This substance

seen in small intestine as far down as the valve. Large bowel contains soft, whitish-gray mucus. Intestinal contents free from fœtor. Kidneys show nothing special. Throughout the liver, numerous grayish-yellow, blotchy patches, seen on microscopic examination to be dust. Diffuse and irregularly distributed fatty degeneration of the cells, not limited in any way to the periphery of the lobules.

(In this case the condition of the liver was apparently due to a former unsuccessful attempt at suicide. The absence of fatty change in the kidneys may mean that this was not done in the form of small, frequently repeated doses. No analysis was authorized, but a private chemical examination showed the presence of arsenious acid both in the stomach and intestines.

As Rough on Rats is made by rubbing together white arsenic and charcoal, I thought it possible that some of the wood fibre of the charcoal might be recognized under the microscope in the contents of the intestine, and identified with that of the original powder, some of which was obtained. This did not prove to be the case, as the charcoal was found to be entirely in the form of small amorphous black nodules.)

SULPHATE OF COPPER.

A. G., aged 28, while despondent, made an attempt to cut his throat, which being unsuccessful, he drank nearly a quart of saturated copper sulphate solution out of a battery jar in the electric works where he was employed as night watchman. Death 1½ hours later. Consciousness retained till the last. Intense abdominal cramps, with greenish vomiting and diarrhœa.

Autopsy, 3½ hours p.m.—Intense rigor mortis. Six shallow transverse incisions in anterior region of neck, not penetrating further than the skin, edges lined with scanty dried blood-clot.

Stomach and intestines externally of a leaden-blue colour, contain a large amount of pale, grayish-green, flocculent fluid. The mucosa is dried and shrivelled throughout, and has the appearance of having been tanned. The mucosa of stomach is stained of a deep green, from imbibition of the fluid. Chemically, the contents of the stomach were found to consist of basic sub-sulphate of copper. Heart muscle and liver parenchyma look opaque and grayish. Unfortunately these organs were not examined for copper.

CHLORAL (?)—DILATATION OF STOMACH.—SARCINÆ.

Case 82.—One case of death after a dose of 25 grains of chloral occurred in a hard drinker, A. H., aged 30, male, who was suffering from a mild attack of delirium tremens, and was still under the influence of liquor when the dose was given. He became comatose almost immediately, and died in six hours.

Autopsy.—Lungs voluminous. Numerous small sub-pleural ecchymoses. On section, large amount of rusty froth on cut surface, with numerous small areas of haemorrhage. No œdema. Bronchi filled with reddish froth. Pectoral muscles have a marked odour like alcohol. No special odour noticed in liver or brain. Heart not fatty. Stomach very large, reaching down to pubis; on opening, it contained

nearly two quarts of a frothy, brownish paste, having a sweet, alcoholic, yeast-like odour, and containing partly digested food. Under microscope, large numbers of sarcinæ found. Mucosa not thickened. No stenosis of pylorus. Other organs normal.

(In this case I did not feel able to decide whether the alcohol or the chloral, or a combination of the two, had brought about the death. The jury in this case probably came very near the mark in stating that the deceased "died from the effects of alcohol, having succumbed to an ordinary dose of chloral."

It can hardly be looked upon as a safe procedure to give a full dose of chloral to an alcoholic without first giving him time to eliminate the alcohol from his system.

The coincidence of sarcina ventriculi and dilatation of the stomach was very interesting, this condition never having been, to my knowledge, noted in connection with sudden death. Possibly the dilatation of the stomach may have acted injuriously by impeding respiration, but there was no proof that such had actually been the case, and reflex interference could hardly be seriously considered in the case of a man whose system was narcotized by alcohol and chloral.

I also considered the possibility of the engorgement of the lungs being due to a commencing pneumonia, but this was definitely excluded by the absence of the pneumo-coccus in cover-slip preparations.)

DEATH FROM ALCOHOLISM (?)

I may mention here another case, No. 81, that of D. M., aged 36, male, a man who was not an habitual tippler, but who had been drinking freely for some days, and was found dead sitting upright in a chair.

Autopsy.—Body that of a hunchback. There was intense congestion of the head and upper part of the body, with numerous small ecchymoses in the skin over the chest and shoulders. The vessels of the brain were found gorged with dark fluid blood, and the lungs were dark, intensely congested, with extensive patches of extravasation of blood in their substance. The bronchi were filled with froth. The other organs were normal. No signs of injury.

(Evidently the immediate cause of death was asphyxia, but what was the primary cause of this asphyxia? A chemical analysis was made for opium and morphia, but with negative results. I am inclined to put down alcohol as the cause, as there appeared to be no mechanical explanation.

In this case I found marked evidences of bronchitis, the bronchial mucosa being coarse and swollen and the tubes filled with mucus. The evidence taken by the coroner showed, however, that, though the deceased had suffered for several years back from bronchitis and asthma, his cough had been much better for some months back, and none of those who had seen him in the last days of his life had noticed him to cough much.)

CHLOROFORM INHALATION.

Case No. 83.—D. L., male, aged 24, laborer. Died suddenly while under chloroform, at the Notre Dame Hospital, for the reduction of a dislocation of the right shoulder. Had inhaled less than ʒii. Took the anæsthetic badly.

Autopsy.—Moderate dilatation of the heart, with slight hypertrophy. Microscopically, no fatty degeneration. Slight diffuse fibrosis of kidneys. Lungs show abundant reddish froth on cut surface. Bronchi contain reddish froth. Other organs normal.

(The opinion given was that, while the heart and kidneys were not perfectly normal, there was not sufficient change in them to indicate that chloroform inhalation would be dangerous.)

I may append another case of death under chloroform, not in the present series.

S. L., aged 25, male. Died after inhaling ʒiv. of chloroform from a Junker inhaler, preparatory to operation for removal of a bronchocele, in the Montreal General Hospital. The operation had not been commenced.

At the autopsy, the only abnormability noted was a decided enlargement of the spleen, which weighed 300 grammes, and a slight enlargement of the kidneys, which weighed 210 grammes each. The heart was found to be absolutely normal.

In both these cases the chloroform used was Duncan and Flockhart's. No analysis of the anæsthetic was ordered.

In answer to a question from the coroner as to whether chloroform was liable to cause death in healthy people, I stated that it was regarded by many as a dangerous anæsthetic, whose use was only advisable where for some reason ether could not be employed. The occurrence of two deaths from chloroform in a city where no death from ether has been recorded for several years, though ether is given probably five times as often as chloroform, seems to me to bear out this statement.

In neither of these cases was the death shown to be in any way due to carelessness or want of skill on the part of those administering it. The usual restoratives—including hypodermics of strychnine—were employed, but, as usual, without result.

ILLUMINATING GAS.

One case of death from this cause, included in my hundred cases, is sufficiently typical.

W., aged 74, who had never been in a city before, was told by the bell-boy in a Montreal hotel that he "could not" blow out the gas. He was found dead in bed next morning, having apparently perished through the attempt to demonstrate the falsity of the bell-boy's statement. The room was small and smelt strongly of gas.

The body, when viewed by me 48 hours after death, showed nothing unusual beyond an extensive rose-red colouration of the skin in the dependant parts. I was unable here to state that this was due to the characteristic change in the blood from the presence of carbon-monoxide, as the body had remained for so long a time in a very cold place, and in bodies kept in the cold a rosy-red change of the superficial parts affected by post-mortem lividity is very common. No autopsy was asked for, and the verdict was death from inhaling illuminating gas.

Some blood obtained after the inquest from the femoral vein was bright cherry-red in colour. On diluting and examining with a hand-spectroscope, *two distinct absorption bands are seen, which appear*

practically identical with those of oxyhæmoglobin. After adding excess of strong solution of ammonium sulphide, these bands become somewhat fainter, but still remain visible, and the band of reduced hæmoglobin does not appear. On testing in the same manner blood obtained from a healthy person, the band of reduced hæmoglobin appears promptly on adding a very small quantity of ammonium sulphide.

I have underlined part of the above paragraph because I find that this simple and easily recognized means of establishing beyond doubt the presence of carbon-monoxide poison is not as generally known as it should be. It should be borne in mind that: (1) The spectrum of carbon-monoxide is practically indistinguishable from that oxyhæmoglobin, but (2) on adding a reducing agent the bands of oxyhæmoglobin become altered, while those of carbon-monoxide persist.*

Other tests for the detection of carbon-monoxide are the addition of caustic alkali, tannin solution, and other substances which give a different colour reaction when CO is present, owing to the fact that the monoxide-hæmoglobin resists the action of the reagent more than normal blood. I did not myself find that these reactions were at all as satisfactory as the spectrum test.

It must be remembered that if a victim lives a few hours after removal from the air containing the gas it will have disappeared from the blood. Hence the collection of a sample of blood should not be delayed. Placed in a well corked bottle, however, the blood will remain for a long time (over two years) without becoming altered, especially if diluted with an equal volume of saturated solution of borax.

Properly speaking, spectrum analysis of the blood ought not to be looked upon as part of an external examination of the body, though, as a rule, in other countries it is expected to be done by the physician making the autopsy and not left to the chemist. For practical reasons, however, I now make a spectroscopic examination form part of the view whenever death is supposed to be due to inhalation of gas, as it seems, in the interests of the public, preferable to do so than to have death attributed to this cause without any direct proof being brought forward.

* A freshly prepared solution of ferro-ammonium-tartarte works more rapidly than ammonium-sulphide as a reducing agent.

I may cite two other recent cases of gas inhalation where the cause appeared to lay in the defective nature of the stop-cock, in which the catch was so worn away that it could not be known with certainty whether the tap was turned off or not.

Cases 116-117.—Mrs. B., aged 60. Came in to Montreal on a visit from the country and went to bed with her little grandchild in good health and spirits. Both found dead in bed next day. Strong smell of gas in the room six hours later, although windows were open.

External Examination.—Rigor mortis present. Both bodies show rosy-red patches in skin of dependent parts. The little girl's body shows white, thick froth about the nose and mouth. No marks of violence. Bodies both lying faces upwards.

Blood obtained in both cases is of a bright cherry-red colour. Examined with spectroscope shows two absorptive bands in the green and yellow spectrum resembling those of oxyhæmoglobin. On adding excess of ammonium sulphide the lines persist and are still distinctly visible several hours later, though somewhat fainter.

(To be Continued.)

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

Case in Dr. Blackader's Wards.—Primary Cancer of Bronchial Gland with Tuberculosis.

(Reported by Dr. J. Leeming Walker, House Surgeon.)

Joseph Taylor, aged 49, married ; employed in woollen mills ; entered hospital July 29, 1893, complaining chiefly of weakness and pains through chest and back.

Present Illness—Began about three weeks ago. He was seen by Dr. G. A. Brown on the 19th July, who reports the case as follows : His condition when first seen was one of marked prostration, accompanied with dry, brown tongue, thirst and frequent fœtid stools. There was slight cough, with expectoration of small amount of muco-purulent sputum. Pulse 96, small and weak ; respiration, 30 ; temperature, 98° F. His illness had commenced two weeks previously with a feeling of chilliness, pains in back, epigastrium and limbs, accompanied with diarrhœa and vomiting. In a week he felt well enough to resume work, but after a few days had again to take to his bed owing to weakness. From the 19th to the 28th

there was little change in the symptoms. The temperature reached 99° every evening; the pulse became distinctly weaker and increased in frequency to 120. There were occasional attacks of severe pain referred to epigastrium. The character of the diarrhœa had improved under treatment.

Personal History.—Born in England; came to Canada one year ago; has always been healthy: two years ago had the sharp pains over the left side, confining him to bed for seven days, but shortly afterwards he returned to work. Has never been very strong since, and during last winter had morning cough with expectoration. Used alcohol freely while in England, more moderately since coming to this country (glass of brandy at night); uses tobacco. No venereal history; no indications of scrofula or rickets.

Family History—Patient can give no information about his family history.

Present Condition—Patient is a somewhat emaciated man; face slightly flushed, presenting numerous stellate veins over nose, and malar prominences. Lies quietly on his back. Intelligence is good; mental state quiet; sleeps fairly well; no complaint of pain anywhere. Temperature, 98°; pulse, 108; respiration, 24.

Respiratory System.—Breathing easy; no dyspnœa; complains of slight cough, generally in morning, with scanty expectoration, muco-purulent in character. There is no history of hæmoptysis. Examination of sputum for tubercle bacilli gives negative results.

Physical Examination.—Chest expands equally on both sides; on palpation there is diminished vocal fremitus over left apex. Percussion in front reveals dulness over the upper part of left lung as low as fourth interspace, where it is blended with the cardiac dulness. Below this and in the axillary space the lung is resonant. Over the right lung, especially near edge of sternum, the note is somewhat hyper-resonant. At the back deep percussion reveals slightly impaired resonance over left apex. On auscultation the breath sounds and vocal resonance are found much diminished over the dull area in front. In first inter-

space near the sternum the breath sounds are tubular and the vocal resonance is increased. In upper part of left axilla breath sounds are bronchial. Over the right side the breath sounds are slightly puerile, with prolongation of expiration and a few mucous rales. Over back the breath sounds are normal. A few mucous rales are heard on the right side. The voice is somewhat husky.

Circulatory System.—Pulse small, but regular in volume and rhythm; arterial coats thickened; slight cyanosis of lips. The apex beat is diffuse and felt in fifth interspace $4\frac{1}{2}$ in. to left of midsternum and $\frac{3}{4}$ in. outside nipple line. The superficial cardiac dulness blends above with the pulmonary dulness. Transversely it extends from $\frac{1}{2}$ in. to left of margin of sternum outwards $3\frac{1}{4}$ in. Auscultation reveals an accentuation of pulmonary second sound, but no endocardial murmur.

Digestive System.—Tongue coated, edges and tips red; appetite poor, thirst considerable; no vomiting. Bowels regular, moving once daily. Abdomen somewhat retracted; no pain or tenderness. Liver enlarged, edge palpable below costal margin has distinctly nodular feel; no tenderness. No enlargement of spleen.

Urinary System.—No change in quantity excreted: color light orange; reaction acid; specific gravity 1020. No albumen, no sugar, no bile. Microscopically no casts are to be seen. The patient was placed on a milk diet, and there was prescribed for him the following: Ac. hyrochlor. dil. ℥x., tr. nuc. vomic. ℥x., sp. chlorof. ℥x., aquam ad ℥ss. ter die sumendum.

Aug. 6th.—Night of 6th patient complained of great pain between shoulders, also in chest and upper part of abodomen. hot fomentations applied to abdomen, gave relief.

Aug. 16th.—Has had pains above mentioned on several occasions since last note; always relieved by application of hot fomentations. Patient has developed a diarrhœa with stools of a bright yellow color and very watery. He was ordered bismuth. carb. grs. xv, beta-napthol grs. x, every four hours.

Physical Examinption.— Over back there is dulness immediately below spine of scapula on left side, with a circumscribed

spot of about 3 in. diameter, over which sharp crepitant sounds are heard, persisting after coughing.

Aug. 25th.—Patient left the hospital to-day at his own request. Physical signs still the same, but he feels considerably better; has been free from pain for several days. The temperature during his stay in the hospital (28 days) occasionally reached 100·5°, but for the greater part of the time was below 99·5°.

Sept. 6th.—Patient re-admitted to hospital to-day. Pulse 104. Temperature 98°. Respiration 28. The emaciation is much more marked; weakness extreme; cough frequent with copious expectoration of thick, tenacious, muco-purulent sputum, examination of which shows presence of tubercle bacilli in fair numbers; respiration at times more rapid and laboured and accompanied by mucous rattle, distinctly heard on breathing. Physical signs much the same; rales more abundant over back. Complains of severe pain over region of stomach.

Sept. 7th.—Temperature, 100·8°. Patient wandering in mind, but can be readily recalled.

Night of 9th.—Patient has been in a sleepy condition all day; during night breathing became difficult; good deal of cough. Temperature, 100·2°; respiration, 32; pulse, 118.

Sept. 10th.—Patient is worse. Respiration accelerated and short; comatose, almost impossible to arouse him. Temperature, 102·2°; pulse, 126; respiration, 52. Died at noon.

Post-Mortem Report by Dr. Wyatt Johnston.—Body of emaciated man. Subcutaneous fat of slight orange colour and dry. Rigor mortis present. Head not examined, owing to conditions under which post-mortem was obtained. Thorax—Diaphragm, right side, 4th interspace; left side, 6th interspace. Both pleuræ show slight adhesions, readily broken down, with a little soft, white lymph, most abundant on left side. Left pleural cavity contains a cupful of yellowish, turbid, serous fluid. The anterior mediastinum, near root of lung, presents infiltration of greyish-white, nodular masses. The pericardium contains about ℥i. of slightly turbid serum. Heart—Large. All cavities distended with firm, dark clots. Over right auricle,

close to root of lung, there is a firm, greyish-white, nodular infiltration, which on section yields a large amount of milky juice. Valves of heart normal; left ventricle ¾ in. thick, aortic orifice 3 in., mitral 4 in., pulmonary 3 in., tricuspid 5 in. in circumference. Lungs—Left, weight 1050 grms.; base œdematous; upper lobe completely airless, greyish colour; bronchi filled with thick, white muco-pus; the lower lobe is very œdematous, and at its apex shows numerous greyish-white granules of infiltration, and a couple of small calcified nodules, the size of a pea. At root of lung is a large, firm, greyish-white mass of new growth, the size of a small apple. This has encroached upon the left bronchus, just below the bifurcation, and grown through it, so that the lumen is nearly occluded by a clump of five masses of new growth, each the size of a hazel nut, one of which has undergone extensive necrosis. This infiltration, evidently of a malignant tumour, extends upward on left side to just below bifurcation of trachea. Right Lung—Crepitant throughout; a little emphysematous in middle and upper lobes; lower lobe œdematous, and contains a good deal of blood, with a few greyish-white, granular areas of apparently broncho-pneumonia. Abdomen—The liver projects a hand's-breadth below costal border. Nothing unusual about peritoneum. The surface of liver studded with white, firm, raised nodules. Spleen—Small, normal. Kidneys—Weight each, 170 gms; parenchyma greyish and opaque-looking; columns of Bertini greyish colour. Bladder—Filled with ordinary urine, and normal. Testes—On left side slight hydrocele. Stomach—Looks quite healthy; bile ducts pervious. Pancreas appears normal; does not contain anything like a tumour. Portal vein and hepatic artery free. Supra-renals normal. Aorta and vena-cava normal. Retro-peritoneal glands not enlarged. Rectum normal. Intestines show no ulceration or tumour. Liver—Large (weight, 2730 gms.); infiltrated throughout with greyish-white, medullary looking tumour masses, ranging from size of pea to walnut; none of the superficial ones show anything like central depression, and nothing that can be regarded as primary growth.

Anatomical Diagnosis.—Primary cancer (lympho-sarcoma) of bronchial gland and left bronchus; secondary growth in bronchial glands, lung and liver; sub-acute broncho-pneumonia; cancerous pleurisy and pericarditis; slight parenchymatous nephritis. Microscopical examination of fresh section of nodule in liver (unstained) shows: Alveoli very large, with distinct stroma, filled with rounded epithelial cells, very small, not much larger than lymphocytes.

In this case the question of a new growth was thought of and discussed, but afterwards laid aside for that of tuberculous disease of anterior portion of left apex, with excavation and subsequent shrinkage of cavity, resulting in compensatory hypertrophy of right lung and displacement of heart.

Correspondence.

EXPERIENCE OF A SHORT VISIT TO SOME OF THE UNIVERSITY CLINICS OF EUROPE.

To the Editors of The Montreal Medical Journal.

Dear Sirs,—According to promise I send you a short account of what I saw during a hasty run round the German continent this summer. I had only an opportunity of remaining over in each place from three to seven days. From June 18th to July 21st I visited Paris, Vienna, Prague, Dresden, Leipsig, Berlin, Hanover, Cologne, Bonn, Brussels and back to Paris; then on to London and Liverpool to return home via New York in the steamship Majestic.

June 18.—On my arrival in Paris I proceeded the following morning to visit the St. Louis Hospital. Here in this quaint old building (over 200 years of age) I found Dr. Lucas Championiere at work. The operating room was large, it was not in good repair, though at one time it must have been a very pleasant and efficient room to work in. The heat of the room, from a large dry-heat sterilizer at one end of it, was intense. Phenic acid and sublimate solution seemed to be the antiseptics used. There was also a peculiarity noticed, not seen often now-a days—an antiseptic spray of the old Lister type was going at full pressure during the entire period of operating. Chloroform was the anæsthetic used, and the patient

was every now and then revived by the inhalation of oxygen. This was supplied from large rubber bags which looked like green cloth-covered bolsters. It was certainly very interesting to witness the effect a few inhalations from this oxygen bag had upon the patient when dangerous symptoms set in. From an ash-coloured lividity of countenance and a failing heart, a bright pink complexion and return of pulse ensued, and all was well. I understand Mr. Chapman, of Montreal, has imported a few of these bags, which may become useful in over etherization as well as from over-doses of chloroform.

In connection with the St. Louis Hospital there is an excellent museum, where two skilled men are employed putting up specimens.

I next visited the Maison Municipal de Sante. This is a large hospital somewhat more modern than the St. Louis or La Charité. It is arranged on the continuous terrace plan, surrounding beautifully laid-out gardens with well-kept gravel walks, the whole pleasantly enlivened by beds of variegated flowers artistically arranged. Here I saw Dr. Paul Segond at work in a small, well appointed operating room.

June 28.—Arrived at Vienna, having passed through Zurich and Innesbrück. Visited Schauta's clinic the following morning. This clinic takes place five mornings in the week at 11 to 1 o'clock, in the large lecture theatre, or what was originally an operating theatre. In Austria and Germany gynæcological operations are not performed in large theatres before students. They are done very early in the morning in small private operating rooms before only a limited audience of visiting surgeons or physicians. I did not see more than two or three at any one operation, besides assistants. The large theatres are used for the purpose of demonstrations on patients before and after operation, and for lectures upon pathological specimens; also obstetric examinations and demonstrations are carried out here.

Upon this occasion there were a few interesting cases. One was that of a patient with a rachitic pelvis. She was pregnant at about full term. Labor was in progress. Schauta spoke for a short time upon the case, and said he would send her back to the ward to be delivered naturally. Next was a case of a large hæmatoma of the head of a newly-born infant.

He punctured the cyst with a trocar and attached an exhaust jar. In this way he drained the blood cyst and applied pressure by means of strapping of the entire head. He spoke of the great difficulty of diagnosing compressibility of bones of the head by external palpation, which was acquired only by long experience. He demonstrated this fact on a patient at full term, and by finding the bones compressible he sent the patient back to the ward to be confined without the aid of forceps. He also handed round his class a newly-born infant, so that a very compressible head could be examined and its peculiarity carefully noted.

Schauta next handed round a number of beautifully prepared pathological specimens in spirit, of ovarian and tubal disease. The majority of them were pus tubes. He gave the history of the individual cases and a clinic upon the methods of diagnosis and the treatment applied in each case, with the past operative course. He said the diagnosis of and operation for pyosalpinx were amongst the most difficult procedures in the whole range of surgery. He spoke of Thur Brandt's method of massage in such cases, and condemned it very strongly as a practice in treatment. He spoke of two cardinal symptoms met with in cases of pyosalpinx, viz, pain and hæmorrhage, dysmenorrhœa and painful defecation were very constant symptoms. The hæmorrhage was due to endometritis, and that it was almost always present in these cases. He also spoke of the various reflex phenomena associated with pyosalpinx cases, such as gastric disturbance, reflex cough and headache; skin conditions, such as urticaria and eczema. Altogether the patient frequently assumed a condition of extreme misery, all of which was very characteristic of these patients. Massage and electricity were looked upon by him as exceedingly dangerous proceedings. He referred to a fatal case of pyosalpinx which recently came within his observation which had been treated by electricity, and he knew of a number of fatal cases resulting from massage.

Some of the specimens exhibited by him and upon which he spoke were characterized by extensives adhesion to adjacent parts, especially the ascending and descending colons, and when the tube became adherent to the ovary by its fimbrated extremity it invariably caused abscess formation in

the ovary (tubo-ovarian abscess). It was these adhesions in various degrees of density which made the operation for pyosalpinx so extremely difficult. He advised operation in all such cases as the only means of relief.

Prof. Schauta is a skilful operator; he is, however, not a strong or impressive expounder. He possesses, notwithstanding, some of the most valued attributes in a teacher. He is extremely patient and minute in detail with his student, never allowing him to depart without thoroughly understanding that which he has been most patiently trying to teach him at the bedside. All of the teaching is carried on in the large theatre, capable of holding from 170 to 200 students. The woodwork and walls are painted white, in fact, every article of woodwork is white. The floor is mosaic asphalt, irrigators of glass with solutions of various colours. Abdominal sections are performed in small private rooms before a limited audience.

I also visited Prof. Chrobak's clinic. He was then engaged in demonstrating to his large class the fœtal circulation with coloured chalks on a transparent box fixed on the window. Chrobak uses his theatre only for lectures and demonstrations. His methods of teaching are the same practically as Schauta's. The student examines the patient with help of advice from his teacher, and as he progresses makes a probable diagnosis and gives his ideas of treatment, etc. The clinic conducted in this practical way the student is impressed with the necessity for observation of detail and thoroughness. Obstetric cases at, and approaching full term, are used for instruction in this manner. Gynæcological cases are seen and examined in this way before operation, and after operation before the patient leaves the hospital. Amongst other cases upon this occasion was one of turning at term in a narrow pelvis. The first assistant pulled down one foot in the usual manner and sent the patient away to the ward to be confined. I understand that turning is performed very much more often now in Germany than formerly and the forceps consequently less often applied.

Prof. Chrobak also delivered clinics on several very interesting cases before, and some after, operation for large uterine myomata and ovarian tumors. I admired very much his

beautiful oil paintings of pathological conditions of the sexual organs. They were done by eminent artists on a sort of cardboard about two feet square. The coloring of these paintings was exceptionally good and true to nature; I saw them only in Chrobak's clinic. Each plate illustrated the condition of the patient under consideration at the time. Antiseptic methods are carried out in these clinics in a most thorough manner. There is no difference of opinion on this great subject; it is a matter of who shall show the greatest power of originality of thought towards the accomplishment of the most perfect technique. In this respect Germany is to be congratulated for her solid wisdom. This profound respect for antiseptic surgery in detail must command the admiration of all other nations, and has made her to-day the great post-graduate finishing school of the world.

July 5.—I left Vienna for Prague. On arriving at this quaint old city I visited Prof. Von Rosthorn's university *Frauen-Klinik*. The building is new and situated in the grounds of the general hospital. It is a fine stucco building, every part inside is of stone, iron or cement. The operating room is a model of perfection. The clinic has accommodation for 34 patients, all purely gynæcological cases. The wards were all full of most interesting cases, nearly all of abdominal sections. Von Rosthorn uses one of the original Trendellenberg tables. He uses silk and catgut for ligatures and the cautery instead of the knife or scissors. He is a rapid and careful operator, the outcome of constant experience at one kind of surgery. He resorts very seldom to drainage, and when he does, prefers gauze to tubal. I saw in his clinic one case on the seventh day after operation for tubal pregnancy. The gauze abdominal packing removed in my presence came away quite easily without any pain to the patient and was still aseptic.

Von Rosthorn used small-sized material for ligature, whether silk or catgut. I observed no sponges or towels in this or any other operating room in Germany. The patient after being anæsthetized is stripped nude, prepared for operation by the assistants, and covered with sterilized gauze. She is then wheeled to the operation room and gently lifted on to the operating table. Besides the assistants there are gener-

ally two or three guests present. In closing the abdominal wound Von Rosthorn used three rows of suture, the first of fine catgut for the peritoneum, the second also of catgut for the fascia and muscles, and the third for the skin. This last suture was, in his practice, of silk; it was a peculiar running blanket stitch and looked very nice when finished. I was somewhat impressed with this many-suture style of closing the abdomen. It certainly has many advantages, but is suitable only to very rapid and expert operators. It closes at once the cavity and no blood can continually flow into it from muscle or skin punctures during the passing of needles. It also produces much less tension on the wound and therefore less pain, as the tissues from peritoneum to skin are not drawn up all together and constricted by one very tight silk-worm gut suture. I had the pleasure of witnessing many abdominal sections at Prague, especially through the kindness of Prof. Von Rosthorn. These included several abdominal hysterectomies by the new method known as Zweifel's or Chrobak's. It is a very interesting operation and gives most excellent results. Von Rosthorn has charge also of the maternity clinic, which is in a separate new building. He informed me that he superintends the confinement of about one thousand cases annually. It is a magnificent clinic and well equipped. He showed me the original old building where Scanzoni conducted his obstetric clinic years ago, with its fearfully high mortality. The building was so old and dilapidated that it had become deserted for some time past. After spending a week in Prague I went on to Dresden.

On my arrival at Dresden I went to see Prof. Leopold's famous *Frauen-Klinik*, situated in the grounds of the general hospital. It is a large stucco building of modern architecture, containing both the gynæcological and obstetrical wards. I had the pleasure of meeting Dr. Williams of Baltimore here, with whom I spent a pleasant day. I witnessed some of Dr. Leopold's operations; he operated in a small, well-lighted operating room with marble walls and mosaic floor before a few visitors and private pupils. I am told this is one of the finest obstetrical clinics in Europe. Leopold uses heavy silk in abdominal work; he passes this through all structures forming the abdominal wound, and applies finer silk for inter-

mediate stitches; no drainage. He treats endometritis with painful menstruation by means of a series of tangle tents, continuing the dilatation morning after morning until the uterine canal is dilated to an enormous size. By the combined use of these and hard rubber dilators he effects the dilitation. He uses ether in abdominal work. He showed me two cases convalescent from symphysiotomy, one on the eighth day, the other on the seventeenth day after operation. The dressing consisted of a strong web strap with buckle across the hips, which controlled the bony pelvis. He also used a permanent catheter in these cases.

From Dresden I went to Leipsig. It is a beautiful old city, very clean and possesses many attractive features. I called at once upon the genial and highly respected Prof. Sanger, from whom I received much kindness and courtesy during my visits to his private hospital. His hospital accommodates about 25 patients. These are received and allotted to separate rooms, which are appointed with every appliance necessary. The passages and areas are large and there is a large garden in rear of the building. In the basement are two large steam sterilizers which furnish the operating room with sterilized water from condensed steam. There is also a large bath-room in the basement, fitted out with all the modern methods for treating diseases of women by water. The kitchen is beautifurnished, tile flooring, and is a model of cleanliness. The operating room is on the second floor; it is not large, has painted walls, and the floor is covered with a sort of thick rubber linoleum material, so commonly seen on floors in Germany. The room is ventilated by a large opening in the centre and cold air is admitted at the sides. Dr. Sanger's operating table and instrument cabinets are of his own design. Sand is used as a mechanical cleanser of the hands. Permanganate of potash and oxalic acid is also used by Dr. Sanger, and he claims to have been the first surgeon to have used them by many years. He uses fine silk in all his operations, the silk suture being divided by the asssistant in charge of the ligatures with the spirit lamp. This makes the silk easily threaded and is more advantageous for other reasons. Dr. Sanger has on his staff ten pupil assistants, one of whom is a resident; he needs only two, however, at each operation,

besides the anæsthetizer. He uses no sponges or towels in his operating room, and only sterilized water. In vaginal hysterectomies he uses silk ligatures, removes the adnexa and turns the stump into the vagina and closes the cavity without drainage. He does his own operation for prolapse, sterilizes all ulcerating points with the cautery and uses silver wire in the perineum. It is a long operation, taking sometimes as long as two hours and a half. Part of this time patient lies not under the anæsthetic. He said he often did the operation without an anæsthetic. He uses ether.

At the General Hospital in Leipsig I visited Prof. Zweifel at his clinic. He was also very kind in showing me through the clinic. It is a very large building, quite new, being finished last year. It is magnificently appointed, the passages are very large and the system of ventilation ensures the most perfect purity of the air. The large theatre in this clinic is certainly the finest I have seen in Europe in splendour and size. No major operations are performed in it; it is purely for lectures and demonstrations on patients before and after operation. All major operations are private and performed in small, well appointed operating rooms, before a limited audience of visitors. Prof. Zweifel is the chief or director in absolute control of this clinic. He has a magnificent suite of private apartments as offices, microscope rooms and chemical laboratories, in fact, everything that can be required for the advancement of the science of his specialty. His principal operating room, where he does only abdominal surgery, is a model of perfection and ingenuity. The room is about 18 feet square, the ceiling very high, and has attached a net-work of metal water pipes which are perforated by numerous small apertures. At will Prof. Zweifel can fill the room with superheated steam and clear it with a perfect shower of rain. This rain comes from the perforated tubes on the ceiling, the water to which has been turned on at a given moment. In this way the walls and floor are thoroughly flushed and the air purified of all particles of foreign matter carrying infection. It is most ingenious and is a topic of favourable comment all over Germany.

Cold air from without is admitted through ventilators situated near the ceiling covered with wet gauze; the ven-

tilators for the return air are situated on the wall near the floor. The whole of one side of this chamber is glass, and the ceiling is also of glass. The glass sashes are double, as is the case throughout the whole continent. The wards in this clinic are simply large rooms, containing not more than five or six beds. The capacity of the clinic is 150 beds, including obstetric cases.

In speaking of symphysiotomy, Prof. Zweifel informed me that he had performed the operation on 16 patients recently, and that they had all done well. He said he did not suture the wound until 24 hours after the operation, so as to favour blood clotting. He did not use forceps in such cases, but simply "opened the door and allowed the little stranger to come out at his leisure." He thought the operation better in the interest of both mother and child, but that there was a possibility of the pelvic bones remaining mobile from faulty union. In North Germany the operation is performed very frequently, but in South Germany it is seldom required.

In performing abdominal hysterectomy Prof Zweifel claims to have been the first to adopt and practice the retroperitoneal method (performed first by him 12 years ago.) His method differs slightly from Prof. Chrobak's. Zweifel takes his larger flap from the anterior segment of the uterus, and covering the stump with this he throws the cervical stump into the anterior *cul de sac*. He says that the anterior flap is more loosely attached than the posterior, and being thicker will tend to nourish the stump better. He uses catgut and silk as ligature material, uses the cautery instead of knife or scissors; for drainage I saw him only use gauze; his anæsthetic is ether.

Chrobak's method consists in taking his flaps from the posterior and anterior uterine segment and turning the stump into the posterior *cul de sac*.

From my experience in witnessing the various operators performing hysterectomy throughout Germany I have concluded that practically there is very little difference in method. The main point remains the same, namely, that the cervical stump is left in the pelvic floor and is covered by peritoneum after the vessels have been secured by firm ligatures on each side. The flaps were taken from the anterior

and posterior segments according to the size, shape and other points in the nature of the individual growth then being dealt with.

Prof. Zweifel, when operating, sits between the patient's legs, as Martin, of Berlin, does. He says he has tried all other positions and likes this the best. He uses catgut and interlaces his stitches. He divides tissues with the cautery instead of knife or scissors; uses no sponges. If necessary he turns the intestines out on antiseptic gauze and gets properly at the diseased parts in the bottom of the pelvis. He does not keep his instrument in water while operating, and sterilizes his hands by solution of sublimate. I saw him re-open one case on the third day following operation. At the original operation he had introduced through gauze drainage from the opening in the anterior abdominal wall to the vagina. The patient had high temperature on third day, he found no pus, some serum. He attached fresh gauze to the original and pulled it through by traction on the vaginal end. I think glass abdominal drainage would have been better in this case.

July 15th.—Arrived at Berlin and next morning visited Prof. Olshausen at the University *Frauen-Klinik*. The magnificence of this clinic is well known. It is not, however, as new and palatial as Prof. Zweifel's clinic at Leipsig. I saw Olhausen do several abdominal sections. He is a very rapid operator; uses medium-sized catgut for his pedicles. He uses three rows of sutures, all of catgut, in closing the abdominal wound. He told me he had not seen the slightest defect in the last 100 cases on which he had used this method. He operates in a small room, the inside of which is largely of glass. He has many assistants; so rapidly does he operate that one patient is being anæsthetized while he is beginning to operate on another—one patient is wheeled out while another is wheeled in. He uses the cautery instead of knife or scissors; no sponges. He covers his patients with pure gum rubber sheeting; stands on the right side of patient, who is resting on an ordinary horizontal table. He uses chloroform or ether, according to the case under operation. In order to see Prof. Olshausen operate it is necessary to call on him beforehand, enter your name and address in a register; telephone word will be sent you that evening to inform you of your presence

being required at the Royal University Clinic at a certain hour next morning. If you are a moment late the porter will not admit you; if on time you are clothed in fresh linen and ushered into the surgeon's operating room, where you will find him at work.

From Berlin I went to Hanover and on to Cologne and Bonn. At Bonn I had a pleasant interview with Prof. Trendellenberg, the inventor of the now famous position and table for placing the patient in that position. I also visited the famous old university at Bonn; it has 1,500 students enrolled on its register, 350 of whom are in medicine.

From Bonn I returned to Cologne, then on to Brussels and back to Paris.

I feel I have already made this letter much longer than I had originally intended, and therefore have encroached overmuch upon your valuable space. I hope, however, those who intend taking a similar holiday may find a point or two of a passing value in it.

I am very sincerely,

T. JOHNSON-ALLOWAY.

23 Mackay street, Montreal, Oct. 4, 1893.

Reviews and Notices of Books.

The Anatomy of the Peritonæum. By FRANKLIN DEXTER, M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons (Columbia University), New York. With thirty-eight illustrations. New York: D. Appleton & Co. Montreal: Wm. Foster Brown & Co., 233 St. James street.

In the handling of this difficult subject a great deal of skill is shown. Starting from the time when in the embryo the alimentary canal resembles a tube, the changes are graphically portrayed by means of illustrations of a diagrammatical nature. The development is traced step by step, so that no one can avoid understanding the subject, for, unless the manner in which the changes are produced is studied, it is impossible to explain the anatomical conditions present. The pamphlet is of great use to students of anatomy, as well as to practitioners who wish to arrive at a clear understanding of the anatomy of this important part of the human organism.

A Chapter on Cholera for Lay Readers: History, Symptoms, Prevention and Treatment of the Disease. By Walter Vought, Ph.D., M.D., Medical Director and Physician-in-Charge of the Fire Island Quarantine Station, Port of New York; Fellow of the New York Academy of Medicine, etc. Illustrated with colored plates and wood engravings. In one small 12mo. volume, 110 pages. Price, 75 cents net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street.

The author has written this book to give a clear and comprehensive idea to the reader of what cholera really is. He first defines it, and then gives a short account of its history, and gives the route of the pandemics which from time to time have devastated Europe and America

The causation of the disease is fully gone into, and the conditions necessary for its development in human beings are given as the presence of cholera bacillus, the entrance into the body of these germs, and a condition of the body suitable for their growth and multiplication. The symptoms, diagnosis, prognosis, treatment and prevention are described, as well as the disposal of the dead, quarantine and disinfection.

The author says:—"The knowledge that it is only the discharges and vomited matter that are the source of contagion, and that in no other way than by the entrance into the mouth can the disease be conveyed from one person to another, and that proper and thorough disinfection of these discharges is the only way that the further spread of the disease can be stopped, should be so effectually disseminated that a condition of panic among the inhabitants of a place could not develop." This is most excellent advice, and can be carried out in no better way than by reading this volume and recommending it to others.

The book is well printed, and illustrated by several plates, coloured and otherwise.

Diseases of Women. By Dr. Lewers. Fourth edition. Published by H. K. Lewis, London, England.

This work has now reached its fourth edition, which shows that it has more merit than many of the so-called practical

works on Gynæcology published. There have been but few changes introduced into this latest edition, but Dr. Lewers has found it advisable to recommend the use of laminaria tents for dilatation of the cervix sufficiently to admit the index-finger, except where the dilatation is performed soon after labour. Dr. Lewers strongly advocates supra-vaginal amputation of the cervix in all cases of cancer beginning in the vaginal portion of the cervix. He records twenty-two such operations without a death, and gives a table showing favourable results as to recurrence. The differential diagnosis given throughout the text is very good, and would prove useful to either a student or general practitioner. The chapter devoted to fibroids of the uterus, and the author's description of Apostoli's electrical treatment, is short, clear and concise, and his criticisms of the same very just. As a rule, the treatment and operations described are good and well up to date; but, in describing laparotomy, Dr. Lewers advises the use of the spray during operation. This has very properly been discarded now by most laparotomists, as it is irritating to both patient and physician, and is not at all necessary if one is careful about asepsis and antisepsis in his hands, instruments, etc. Taking it altogether, the work is just what Dr. Lewers intends it to be, viz., a practical work on "Diseases of Women," and will be found useful by students and general practitioners.

A Hand-Book of Diseases of the Eye and their Treatment. By Henry R. Swanzy, A.M., B.A., F.R.C.S.; Surgeon to the National Eye Infirmary, and Ophthalmic Surgeon to the Adelaide Hospital, Dublin, etc. Fourth edition, with illustrations; 506 pages and index. Philadelphia: P. Blakeston, Son & Co. 1892.

The brief interval of two years between the third and the present edition of this excellent work is sufficient evidence of its continued and well merited popularity. It is a medium-sized book, not so large as to discourage the beginners, or so small as to sacrifice essential details.

The author presents the whole subject in a most readable form, and is well up to date from the standpoint of European ophthalmology. The chapter on diseases of the crystalline

lens is an admirable illustration of the remarkable advance made within the past few years in operative ophthalmology, and may be taken as an excellent guide for anyone whose experience in operations on the eye is of a limited character As in former editions, the discussion of pupillary reactions in health and disease is a pleasing feature of the work not met with in most of the other well known ophthalmic text-books; and the discussion of amblyopia and allied conditions in connection with lesions of the central nervous system will be found instructive even to the advanced specialist in this department of medicine. The subject of color-blindness has been largely re-written and is presented in a concise and thoroughly practical form in an appendix of eight pages.

On the whole, the work is one which merits the full confidence of the profession, and will doubtless continue to hold its place in the front rank of works on diseases of the eye.

Operation Blank. Prepared by W. W. Keen, M.D., Professor of the Principles of Surgery in the Jefferson Medical College, Philadelphia. Second edition. W. B. Saunders, Philadelphia.

This is divided into two parts, one to be given to the nurse and the other to be sent to the drug store, after checking off the items. In this way much time may be saved in giving instructions to the nurse, and there is no fear of forgetting any important particulars. On the back of the pad is printed a list of instraments required in various operations.

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Proceedings of the State Sanitary Convention, held under the auspices of the State Board of Health of California, at San Francisco, April 17th, 1893. By J. R. Laine, M.D., Secretary, State Board of Health.

Report Relating to the Registration of Births, Marriages and Deaths in the Province of Ontario for the year ending 31st December, 1891.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, April 14th, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Paralysis of the Arm following the Application of an Esmarch's Bandage.—Dr. JAMES BELL related the history of the case, the circumstances being, in his experience, unique. A young woman, 20 years old, admitted to the hospital Jan. 16th, with ankylosed elbow joint. The position was not a very bad one, being a little greater than a right angle. The history of the injury was as follows: On the 6th of last July she fell in a car, and, knocking against the wall, hurt her elbow. At the time she did not pay much attention to it; but after awhile, the joint having become stiff, it was thought necessary to call on a doctor. The latter attempted passive motion, which was partially successful, but the ultimate result was ankylosis in the above position. Excision of the joint was advised, to which she after awhile consented, and the operation was carried out in the ordinary way. It was noticed, after removal from the operating room, that she had no power in any of the fingers, and that even sensation was not normal. Owing to the hand being encased in dressing, no very accurate observations could be made for some days, but it was remarked that the fingers perspired profusely. At the end of the third day after operation, being anxious and unable to explain the paralysis (the operation was done sub-periostial, and he was sure no injury had been done the ulnar nerve, besides injury to the latter would not account for paralysis of all the fingers and muscles of the forearm), the dressing was removed, and the explanation was at once patent. The Esmarch had been applied in the upper portion of the arm, just above the belly of the biceps, and below the prominence of the deltoid, and it had been tied so tightly that the skin was blistered. There was consequently no longer any doubt as to the Esmarch being the cause. The whole operation only occupied 40 minutes, so that the band altogether could not have been applied more than half an hour. Upon the discovery of the neuritis she was at once put under the care of Dr. Stewart.

Motor paralysis remained absolute for three weeks. On the 21st day the first sign of movement returned, being a slight motion of the thumb; and after about six weeks' treatment she returned to her home with almost complete power of the arm. Once movement began to appear, it progressed very rapidly. She was able to flex and extend the arm and fingers completely, though not with the full amount of power. There, however, was no motion deficient.

This case is very instructive and very important, in view of the frequency of the application of the Esmarch. It is interesting on account of its rarity. It was the first time he had met with the accident, and considering the number of operations he had seen in the last twenty years, and the recklessness with which the Esmarch had been applied in all sorts and conditions of patients, it seemed to him that this must indeed be a rare complication. It could hardly have occurred had the Esmarch been applied in any other part of the body; but it is a lesson well worth bearing in mind.

The PRESIDENT drew attention to the value of electricity in prognosis. This case, even up to the second week, presented no signs of the action of degeneration, so that, although the paralysis at the time was absolute, he could give a favourable prognosis, and the ultimate result justified it.

Myeloid Sarcoma of the Second Metatarsal Bone.—Dr. ADAMI exhibited the tumour because its position, namely, the second metatarsal bone, is distinctly uncommon, and therefore worthy of record It was removed in the hospital recently by Dr. Shepherd, during which some difficulty was experienced, owing to the deep arch passing close beneath the second metatarsal bone. The arch was cut across and considerable hæmorrhage was experienced. At first it looked as if the tumour had grown from the tendons, owing to the latter being closely applied to its upper surface. Further examination, however, showed this was not the case; the tendons were with moderate ease dissected off, and the tumour seen to be attached to the bone. On examining the tumour microscopically, thin fibrous bands are seen stretching across the tumour, originating from the periosteal surface of the bone. We are then really dealing with a periosteal tumour. Further examination shows it to be a very pretty and very good example of a myeloid

sarcoma. The main features are large spindle cells of various sizes; and amongst these some very large giant cells multinucleated. In addition to these, and accounting for this being rather a slow growth, there is a considerable amount of fibrous tissue in the tumour, and which in places has undergone hyaline degeneration. The correct name, therefore, for the growth would be hyaline myeloid sarcoma. The patient was a young man.

Upon Horse-Pox Affecting the Cow.—Dr. Adami brought this subject before the Society, not because his observations could be considered as other than at their commencement, but because at the present moment great interest is being manifested in the subject of vaccinia and the various diseases allied to or liable to be mistaken for it.

In Montreal, horses are very subject to horse-pox, and especially during this winter has the disease assumed the character almost of an epizootic. Dr. Adami himself had seen as many as twenty cases. It would seem to come on just about the time of a thaw, when the horses in their work about the streets are very much exposed to partly frozen water about the lower portions of their legs. Many of these cases this winter have been associated with the production in the groom, or those attending the horses, of definite eruptions, very similar to the true vaccinial pox. Dr. Bell and others present could give records of grooms and others going to the hospital with pocks on the hand, lips and face obtained in this way.

The case in question was one which occurred in the stable of Mr. Strathy, a gentleman who has well-kept stables. Unfortunately less than a month ago both his horses were attacked with horse-pox. Now, it is the custom in Montreal with many people to keep a cow in the stables with the horses, for greater warmth as well as for domestic convenience. Such was the case in Mr. Strathy's stable, and the cow was milked and tended to by the groom who looked after the horses. One horse had the pox about ten days, the other the greater part of two weeks, when it was noticed one Monday that there were upon the two posterior teats of the cow a small papular eruption. On Wednesday Mr. Baker very kindly showed him (Dr. Adami) the cow; the papules had then be-

come distinct vesicles, and on the Friday following they showed well-marked scabs. There was a certain amount of inflammation in the vicinity; but this had been reduced to a minimum by the cessation of all manipulation of the udders and by employing a milk tube to draw off the milk. The scabs were very characteristic and accorded wholly with the classical pictures given of the true cow-pox affecting the udders and teats of the cow. The history seemed to be most clear. The stable was outside Montreal; the horses and cow were kept apart from all other animals, and they were attended to by the same man; the cow showed the characteristic eruption. It would seem most probable that here we were dealing with a case of horse-pox communicated to the cow by the milker, who was at the same time groom. A week previous to the meeting Dr. Adami had inoculated a calf with the scabs rubbed up in glycerine, and again with the knife that he had employed in removing these scabs, with the result that on that day there were to be seen on the latter well marked typical vesicles, some beginning to dry up, some becoming slightly pustular, such as one gets in vaccinating the cow for the purpose of obtaining vaccine lymph. This is a subject of extreme interest. One hundred years ago Jenner declared that cow-pox was produced from horse-pox. On further investigation it was seen that he had made a mistake, that he had inoculated "grease" instead of horse-pox, and ever since the anti-vaccinationists have availed themselves of this circumstance as a fruitful source of derision in their attacks. Since then there have been many workers in this line, but the conclusions drawn have been very vague ones. He thought that the present case afforded an opportunity of doing some good work in clearing up the difficulty and establishing the identity or separate status of horse and cow-pox. Having once obtained a cow-pox from a horse, as we almost surely have done, and then by inoculation from the cow obtained typical vaccinia in the calf, if some human being will allow himself to be vaccinated by this lymph from the calf, and typical vaccine vesicles or pustules are obtained, Dr. Adami held that he would go near to prove that these two conditions are identical. It is an experiment well worth carrying out, especially as there is a commission now working on this subject in London

and so far they have been able to arrive at no very definite results. Dr. Adami expresses his indebtedness to Dr. Baker for much assistance in this case.

Dr. James Bell saw two cases during the winter of horse-pox in grooms. The first man came with a sore on his lip; it was large, hard and indurated, with depressed, umbilicated, vesicular surface; enlargement of the lymphatic glands beneath the jaws. It was at first regarded as a hard chancre, though the man persistently denied any confirmatory history. Finally, on learning his occupation and whom he worked for, his case was better understood. No doubt it was a case of horse-pox. He was a groom to a gentleman whose horses had been afflicted with the disease this winter. Moreover, the subsequent history and development of the case confirmed the diagnosis of horse-pox.

The other case was seen some time after the foregoing, and, with the benefit of this experience as a guide, a diagnosis was more readily made. His was a sore thumb, and although the history is not so reliable as in the first case, still he (Dr. Bell) was practically sure it was a case of horse-pox.

Now, if it can be inoculated on the groom it can be inoculated on the cow, and this is another link in the evidence going to prove the identity of small-pox in the different species of animals, only modified by the special organism in each case. He asked for some information as to a differential diagnosis between "grease" and "horse-pox" in horses. It seems rather suspicious that horse-pox should be so prevalent in horses at a time of the year when they are exposed to wet and damp weather, which is known to be the cause of "grease" in these animals; or, in other words, that a good many cases of "grease" are diagnosed as horse-pox.

Dr. D. J. Evans said that a case of this kind came under his observation some three weeks ago. A groom who was attending to three horses, all of whom were afflicted with the pox, happened to get a slight scratch on his hand. At the seat of the scratch a little inflammation was noted, with some slight constitutional febrile disturbances; a vesicle formed, which in a few days became pustular, when it broke, and a marked little ulcer remained. The ulcer finally healed up, and left a distinct cicatrix behind.

Dr. KIRKPATRICK asked if horse-pox protects against small-pox in the same way as when the vaccine has passed through the calf.

Dr. GURD referred to a case he had seen about eight years ago. A groom, while attending to some horses suffering from this disease was accidentally inoculated in the cheek. An inflammation followed, and a typical vesicle was developed. The cheek began to swell considerably, and, being so close to the eye, he began to fear an injury to his sight, and went to Dr. Buller, who no doubt can corroborate these statements.

Dr. SMITH, referring to the differential diagnosis between horse-pox and "grease," thought that the course and termination was sufficient to distinguish them. Horse-pox does not last two or three months, as "grease" often does. Like all the acute fevers, it is a self-limited disease. "Grease" is looked upon as a neglect on the part of the groom to properly dry the horse's feet.

Dr. ELDER thought that there were still one or two links wanting to complete a valuable piece of evidence. He understood that the groom did not have the pox at all, and it seemed that the connection between the sickness of the cow and that of the horses is not clearly established. There is nothing more common than for cows to have cow-pox, and that this cow should have it at the time that the horses had horse-pox may at the most be only a coincidence. If the pox had been taken from the horse and put into the calf, then it would have been a direct piece of evidence. As it is, the calf was inoculated from the cow, and the resemblance of the calf's disease to cow-pox may, after all, be due to that, and not horse-pox, being the true malady of the cow.

Dr. ADAMI stated that this was purely a preliminary communication, and the experiments reported are only the beginning of a series of experiments. He had already taken material from the horses, also a scab from one of the grooms that has had horse-pox, and intended inoculating them in cows. With regard to the matter of "grease," one important point is the duration of the disease. "Grease" is a long disease; it does not have the stages of horse-pox. Horse-pox is a papular eruption, followed by the coalescence of the papules, the formation of vesicles and the development of the vesicles

into pustules. Finally you have the rupture of these pustules, the formation of little ulcers and the healing of these ulcers, leaving behind a permanent cicatrix. "Grease," on the other hand, is not characterized by pustules, but rather by pus. It is simply a superficial inflammation of the skin, which goes on to suppuration. This refers to typical cases. Of course there are atypical cases where it is not so easy to separate them. He had seen a case of horse-pox in Montreal where regular suppuration took place, with great swelling and tenderness, but this is exceptional. He was not properly acquainted with all the manifestations which "grease" may undergo, nor could he give what he felt to be an adequate history of its course and termination, although he can detect it readily enough when he sees it. "Grease" is a subcutaneous as well as a cutaneous affection, and he doubted whether it has any counterpart in the human being. With regard to horse-pox granting protection against small-pox, this is as yet an unsettled point. In the last few years a good many experiments have been made in this direction, and many of them seemed to declare that it did protect; others have doubted it. Among grooms, twenty or thirty years ago, when horse-pox was more prevalent in the old country, it was believed that it did protect, but this is also a matter which requires to be thoroughly investigated, and a complete series of experiments is urgently required.

Epithelioma of the Soft Palate, etc.— Dr. H. D. Hamilton, after stating that he had to thank Dr. George W. Major for the permission to utilize material from his clinic, read the report of the case, as follows :—

R. H., female aged 45; unmarried; a domestic servant; lived in Montreal.

First applied for relief at Nose and Throat Department of the Montreal General Hospital in November, 1891, complaining of soreness of the throat and painful swelling of the glands of the neck, both on the right side.

Present Illness—Began in the summer of 1891 as a small sore on the soft palate to the right of the middle line. This was described as a "pimple, about the size of a split-pea, painful and red like a burn." When this had been noticed one month a doctor was consulted, who used a paint, which the patient says cured the spot.

A few weeks later a similar sore appeared nearer the right, on the soft palate. This was treated as before, with no effect; the spot increased in size and the glands of the right side of the neck became swollen and painful, and when this had been going on for three months the patient applied at the hospital in November, 1891.

Through the winter of '91–'92 patient applied at irregular intervals at the hospital, and her condition seems to have remained about the same, with the exception of marked increase of pain in throat and neck when she was exposed to a cold. (She was able to keep on with her work.) When I first had the opportunity of seeing patient, June, 1892, she complained of difficulty in swallowing solids. The ulceration had then attacked the right posterior pillar of the fauces and the pharyngeal wall immediately behind.

Her case was followed up through the summer and winter of '92, during which time this discomfort varied in degree, but flesh was lost steadily, and the ulceration gradually spread towards the left, both by way of the post-pharyngeal wall and the soft palate, so that at the New Year the left cervical glands had also become involved, and the patient was obliged to give up work and come to live with a married sister in the city.

The tongue was attacked first in January, 1893. The patient was suffering from "la grippe," when an acute glossitis occurred. The swelling subsided in a few days, leaving a deep ulceration in the right side of the tongue, opposite a decayed lower tooth. The tooth was drawn and soon the tongue returned to its normal size, leaving a painful ulcerated spot marking the position of the tooth.

At this time the patient had been six months without solid food; pains shooting from the angles of the jaw towards the ears and vertex were almost constant. (Hearing was not impaired.) Nutrient enemata had to be commenced on the 19th of February last. The throat became so painful during an acute inflammation that the patient could swallow nothing. Feeding by soft rubber catheter was tried, but produced too much pain and retching. After a few days liquid food could again be taken in small quantities, but enemata were constantly used from that time. The ulceration of the tongue

had now been present one month and had become surrounded by a hard mass the size of a marble The voice was now noticed hoarse for the first time.

One week later, February 26, 1893, the floor of the mouth became rapidly swollen and very painful, the discharge from the mouth became blood-stained and fœtid, and the patient coughed frequently. Lungs on examination found clear.

Patient was admitted into the General Hospital on 9th of March, where she remained for one week, having the artificial feeding regularly attended to, both by stomach tube and enemata. On returning home she kept her bed; took nothing by the mouth; her mind wandered frequently; the blood-stained fœtid discharge from the mouth was very offensive.

March 27th the patient died suddenly after a large quantity of blood escaped by the mouth and nose. When seen earlier in the day the wasting and weakness were very marked. The mind was weak. Pulse 124, small and thready; respirations 20; temperature (under the tongue) 97 2-5° F. No pain complained of.

Personal History—Negative, patient's habits being regular and her health always good before this disease began.

Family History—Father died of cancer at age of 55 years. (His tongue had been removed for this disease by Dr. Shepherd.)

General condition has been sufficiently described, except that the heart gave a faint systolic "bruit" over the mitral area early in the course of the illness.

Post-mortem examination could only be partial (by the wishes of the family), so I endeavoured to get as much of the diseased pharynx and larynx away as possible. The stomach and liver were roughly examined, but only a small infarction on the surface of the liver was found.

When the floor of the mouth, tongue, larynx and commencement of œsophagus were removed, the naso-pharynx could be felt a crumbling mass of superficial ulceration. The whole of the soft palate was absent; no bare bone could be felt. The parts removed showed bone attacked, viz, the greater ala of the hyoid bone on the right side. To enumerate the parts affected, we have the walls of the pharynx and naso-pharynx, the soft palate, fauces and tonsils, the larynx externally and

internally on the right side. Externally the superior ala of the thyroid cartilage was absent, and internally the disease had reached the true vocal cord. The right half of the epiglottis was removed by ulceration, and the tongue immediately in front was infiltrated throughout its whole width, while the right side towards the tip was deeply ulcerated. The glands affected were beneath the jaws and the anterior cervical chains on both sides.

The course taken by the disease, as far as can be made out by the clinical observations, was as follows: First the right side of the soft palate and the cervical glands on the right; the pillars of the fauces, the tonsil and the side of the pharynx on the right. Then the back of the pharynx, the remainder of the soft palate, the left tonsil, fauces and anterior chain of glands. Towards the end the right side of tongue and glands below the jaw, and the interior of the larynx.

Sections from the tongue and left anterior pillar of the fauces were removed for microscopical examination. Dr. Adami kindly made the examination, and with his consent I will quote what was written at the time concerning the two sections:

"Sections from the tongue and palate are atypical epithelioma, that is, the masses of cells passing down from the epithelium into the deeper tissues are small and devoid of cell nests, so that at a very little distance from the surface the growth might easily be mistaken for a true carcinoma."

If I may impose on the time of the Society for a few minutes more, I should like to draw attention to a few characteristics of this disease accurately borne out in this case.

Epithelioma of the tongue runs a rapid course; the lymphatic glands are soon infected, and death follows in a short time.

Again, in malignant growths of rapid course, there is more than the usual tendency to be atypical.

Epithelioma of the tongue is seen to be influenced by irritation as a cause almost more than any other growth. In this case the tongue was affected within three months of the end. The microscopical examination has proved the growth to be atypical. The onset of the disease with the irritation of a root of a tooth against an acutely swollen tongue is significant.

I have gone thus fully into the case for the following reasons :—

Firstly, this is a case where the cancer clearly began in the soft palate and fauces; not at all a common occurrence.

And, secondly, since the variety of the growth is the same in both, the interesting question arises, viz, May the recent involvement of the tongue not be due to direct infection, the tongue being constantly in contact with the diseased palate and fauces? An avenue for infection was widely opened by the irritation of the tooth described.

Lastly, it is worth noticing the effect of "Influenza" in this case. Several times during the earlier part of the winter the patient came complaining of rapid onset of pain and swelling of the throat and neck, making it next to impossible to swallow or even open the mouth. The skin over the glands would then be red and tender. The attack of glossitis accompanied one of these attacks, and most likely depended chiefly upon the epidemic.

Dr. Adami :—Dr. Hamilton's cases interested me a great deal. It is so rare to have two forms of carcinoma occurring in the same patient at the same time, that although this conclusion that the two forms were present was forced upon me as the result of first sections, I was unwilling to believe it, and have spent two days cutting and preparing more than half a dozen portions of the tissues, with the result that I am glad to retract my previous report. First of all, taking the facts as they come, in examining the tongue one is no doubt dealing with an epithelioma, though unfortunately this inflammatory condition, coupled with a foul sanious discharge, and the time that elapsed before the post-mortem was made rendering the whole surface more or less disintegrated, made it difficult to be certain. I find a proliferation of the epithelium; that proliferation is not the same as in the typical epitheliomatous proliferation. In some regions one sees it a proliferation affecting the ducts of the glands passing down the lower portion of the togue, and again one sees these glands undergoing malignant change. In all sections examined there is this curious absence of well marked "cell nests," there are cell nests, but they are poorly developed. In the lower portion of the tongue the appearance is very similar to what one gets

in scirrhus cancer, long thin lines of cancerous cells separated from each other by marked fibrous stroma. Then one sees the infiltration between the masses of the cells.

Going, then, to the fauces, there is here complete absence of anything like true epithelioma; in its place there is a carcinomatous appearance. However, in sections made to-day, in some regions nearer the tongue than those first made for Dr. Hamilton, one sees similar appearances to that found in the tongue, so now I say that throughout we are dealing with an atypical epithelioma. The epithelioma seems to spring from the lower portion of the epithelium, loses its appearance very rapidly, and soon grows to resemble ordinary gland cancer. When I came to examine the right vocal chord there I found purely inflammation and no carcinomatous appearance whatever.

Neurasthenia of the Stomach.—Dr. GUNN read his paper on this subject page. (Page 109.)

The PRESIDENT took exception to one of Dr. Gunn's statements, viz., that "anorexia nervosa" never occurs in the male sex. Most of the senior medical men in this city remember a case of the medical student named Brown who was suffering from this disease. He was looked upon as the most perfect type of the living skeleton that had ever been known. One of the most important of Dr. Gunn's remarks is that every case requires to be treated on its own merits. A great many of these cases are certainly very difficult to cure, and in the vast majority of them it requires a man like Weir Mitchell to be successful. There is something about the mental type of the man that is essential to success in such states. There is one form of treatment that Dr. Gunn forgot to mention, namely, hydro-therapeutics. Winternitz, in Europe, treats with cold water, but he is no more successful than Weir Mitchell.

Dr. LAFLEUR said that about three years ago he had seen a case of "anorexia nervosa" in the male. The man had at the same time another neurosis that increased very considerably the difficulty of the forced feeding treatment, viz., persistent eructations. However, when last heard of he was very much improved. In Johns Hopkins Hospital, Baltimore, they have had some experience with the Weir Mitchell treatment, hav-

ing as a rule quite a number of patients in the private wards suffering from general neurasthenia, and many of them suffering from gastric disorders. He corroborated the statement that the treatment is very successful when properly carried out; but it requires a special type of man, one with unusual tact and persuasiveness, to carry it out, and unless thoroughly enforced it is worse than useless, it is really harmful.

Dr. Wyatt Johnston remembered a case which would probably come under the category of neurasthenia of the stomach, although not anorexia nervosa. The patient, a man slightly over 40 years of age, fairly healthy as a rule, fairly strong, from time to time suffers from the most severe attacks of what it would be impossible to describe as being anything but nervous dyspepsia. The attacks come on gradually; food begins to disagree with him. He has a great inclination to take food, but its inception causes him pain, and again pain is felt more when food is not taken. There were never any definite signs pointing to an organic disease, such as ulcer; there were never any hæmorrhages or any definitely localized pain. These attacks used to reduce him to a perfect skeleton. They lasted several weeks, and during that time it is impossible to do anything for him. At the end of that time he gets perfectly well, and remains so for a year or more. One peculiarity he had about him was that when he began to get well he would diet himself, and, in spite of the extremely small quantity of food ingested, manage to perform a very unusual amount of active exercise. One slice of bread and three glasses of milk was his average daily allowance, while at the same time he walked from 10 to 15 miles daily, besides other active employment. Notwithstanding this discrepancy between the quantity of food taken and the amount of work done, he gained flesh, and picks up rapidly. Between the times he enjoys good health, but is any day liable to one of these severe attacks of gastric pain.

Dr. Gunn, in reply, said he was very glad to hear of cases of anorexia nervosa appearing in the male, as it corrects a wrong impression hitherto existing in his mind. This impression he received from the author quoted in his paper, who states positively it never appears in the male; and the cases mentioned here to-night he had not seen reported anywhere.

THE CANADIAN MEDICAL ASSOCIATION.

(Reported by Dr. J. N. E. Brown, Official Stenographer of the Association.)

The Twenty-sixth Annual Meeting of the Canadian Medical Association met in Victoria Hall, London, Ont., on Wednesday, September 20th, at 11 a m , Dr. Chas. Sheard, of Toronto, as President.

The first session was devoted to business, there being no papers read.

Dr. BRAY, of Chatham, after thanking the members for their kindness and consideration to him as President for the last year, introduced Dr. Sheard as his successor.

A motion was then introduced asking that fees be required only of members in actual attendance at the Association Another, that, after this, those members who were to read papers, and were unable to come, should telegraph such inability to the Secretary, so that the programme might be more easily carried out.

The SECRETARY then read a communication from the National Bureau of Bibliography, Washington, D.C., informing the members of its value as a storehouse of medical literature, from which they might procure information on any medical subject in which they were interested as students or lecturers.

Drs. McGregor, Campbell. Butler, Hobbs and Weld, of London ; Drs. Starr, R. E. McKenzie and J. N. E. Brown, of Toronto, and Dr. Smith, of Quebec, were elected as members of the Association.

The PRESIDENT proposed that some provision be made for reporting the proceedings of the Association, and named a committee to arrange for such reporting.

Dr. Brown, of Toronto, was chosen to do the work.

The Nominating Committee was then ballotted for, Drs. McPhederan and Bray being appointed scrutineers. The result of the ballot showed the following gentlemen to have been elected :—Drs. Roddick and Stewart, of Montreal ; Fulton, of St. Thomas ; Graham, McPhederan and McCallum, of Toronto ; Olmstead, of Hamilton ; Harrison, of Selkirk ; Holmes, of Chatham, and Bucke, of London.

Drs. R. A. Reeve, F. E. W. Ross, H A. McCallum, T. S. Harrison and Holmes, of Chatham were chosen as the Committee on Ethics.

The subject of a uniform Canadian Pharmacœpia was then discussed, and Dr. Blackader, of Montreal, H. A. McCallum, of London, and Jas. McCallum, of Toronto, teachers of Therapeutics, were appointed a committee to memorialize the Government in this regard.

Afternoon Session.

After the opening business, the President proceeded with his address, whose eloquent periods held the Association in rapt attention and elicited the most hearty applause. The effort was a most masterly one. The substance of his address was solid, and the effect of its brilliant delivery can be appreciated only by those who have listened to the magnificent oratory of the Doctor when he is speaking on some congenial theme. He expressed gratitude to the Association for his election, saying that he felt honoured to fill such a position, which had formerly been filled by men who had made the profession of medicine in Canada illustrious. He combatted the statement made by some that the influence of the Association was on the wane and its work usurped in part by Provincial institutions. It had for twenty-six years stood out against charlatanism; it had developed a feeling of friendship and unity among the profession, it had stimulated and helped men to professional excellence, and had given medical men an increased love and zeal for their calling. It had not outlived its usefulness. Such men as Howard, Ross, Osler, Hadder, Workmen and Wright, not to speak of men whose advancing years prevented them from attending this Association, were examples of all that was good and noble and inspiring to the younger members of the profession. If a man would do good work, he needed to devote his whole attention to his profession. It was unfortunate that some of the younger men presumed that, because they thought they had the latest and most improved methods, they should parade them in such a way as to reflect on their older colleagues. Thackeray had asked how it

was that the evil which men did spread so widely, whilst each good, kind word seemed never to take root and blossom. The President went on to say: "It appears to me scarcely conducive to professional unity that we should have in the various Provinces of the Dominion separate licensing bodies, which confer the privilege of practising only for the Province, and that those of us who to-day may reside in Ontario, in travelling to Manitoba or British Columbia, require there to pass a period of naturalization before we can even be examined, and then to again pass an examination which proves our qualification to practice,—and this in our own country. Surely we are all Canadians, and, if the spirit of the time means anything, we are united in patriotic feeling and national progress. Why should it be different in medicine? I may express the earnest hope that the time is not far distant when there will be some central examining board, or boards, for the whole Dominion, when a license from such a body will be a qualification to practice from one end of the country to the other." (Applause.) The Doctor then spoke of the great strides medicine had made as a result of bacteriology investigations. Curative methods followed correct diagnosis. Bacteriology was a practical, scientific means to aid in this direction. He saw within the next decade a solution to the difficulty which beset the cure of phthisis and such diseases whose causation had during the past decade been established. The science of medicine, like others, must depend upon the co-relation of facts,—upon the comparison of cases alike in many respects but differing somewhat in their phenomena. Much difficulty there was in ascertaining what cases were sufficiently similar to become comparable,—due to insufficient and erroneous records of the phenomena observed. Few men could, for and by themselves, see and describe the things before them. It took a long time before men could see the difference between measles and scarlatina, between typhus fever and typhoid. Plato said, "He shall be a god to me who can rightly divide and define." Men, the speaker said, who have this faculty we cannot produce by any system of education; they come we know not when

or why. It was science, he said, that laid the basis upon which were wrought the revelations in practical science. "Science seams and scars the detested face of hypocrisy and lies, adds beauty to beauty, grace to grace, truth to truth. It decks the flower of the field with loveliness, till all the universe beats with one heart, pants with one breath. It goes hand in hand with art. When the tale of great deeds ceases to thrill; when the awe has vanished from the snow-capped peak and deep ravine; when the lily of the field becomes no longer beautiful; when the tale of suffering causes no pity, then indeed, and not till then, may science be said to have devoured art. Science and practice," he said, "should go together. It should be the work of the pathologist to study the etiology, diagnosis and progress of the case. Paget was a pathologist and surgeon, so was Bilroth. Koch was a general practitioner, Cheyne a consulting physician. In the lines of scientific attainment Canada was fully abreast of the times. There were too many men in our country, however, who were possessed with the sordid ambition of the utilitarian, who thought they could not leave their practice a day to gather such knowledge and enthusiasm, have their powers of observation quickened, receive such mutual benefit as would come to them from attending medical associations." The President eulogized the good work of our colleges and the Medical Council of Ontario. In concluding, the President said "the Government of the Province was liberal, leaving to the profession the ordinance of its own laws, and did it show worthy intelligence on the part of those claiming to be ornaments of the profession to urge upon the gubernatorial body the wisdom of withdrawing from them what was justly and legitimately their own? The masses sent their representative to represent them in certain issues, and if they did not do so they changed their representatives. This is one law of political economy throughout the world. Have the physicians of our Province not enough intelligence to be entrusted with the same privilege."

Dr. Hingston was voted to the chair. Dr. Bray moved, Dr. Reeve seconded, a vote of thanks to Dr. Sheard for his address.

This was carried with applause. The President made a suitable reply.

Dr. J. E WHITE, of Toronto, seconded by Dr. BRAY, of Chatham, made a motion to the effect that a committee be formed to report some scheme whereby the barriers that exist to inter-provincial registration might be overcome, so that practitioners in one Province might be enabled to practice anywhere in the whole Dominion without re-examination, and that such committee be composed of Drs. Praeger, B. C.; Hingston and Mills, of Montreal; Waugh, of London; Sheard, of Toronto; Harrison, of Selkirk; Taylor, of Goderich; Worthington, of Sherbrooke, and Ross, of Toronto. Carried.

The next feature was the report of a case of eclampsia, by Dr. J. CAMPBELL, of Seaforth, Ont. Patient, aged 32, complained of headache extending down neck to shoulder. Without physical examination he administered something for what he supposed was neuralgia. He had not noticed that she was pregnant. In three hours patient had convulsions. Was called again and found patient suffering severe head pain and also in the epigastrium. Temperature normal; pulse full and bounding. Found patient to be about seven months pregnant. Administered an enema of ʒi. of chloral; this induced sleep. Had administered elaterium, which was soon effectual. Was unable to get urine. In a few hours called, and while about to give another injection patient took another convulsion before chloroform could be given. Found urine full of albumen on examination. Very soon patient had another convulsion; repeated enema. Found os dilated to size of quarter. Ruptured membranes. Labour pains came on, and after a sleep till 3 p.m. (case having commenced at 11 p.m. day before) was delivered of living child. Gave ʒi. ergot half an hour before delivery. Placenta delivery normal; no hæmorrhage. Administered a diuretic mixture of pot. acet. and digitalis. Headache disappeared and all symptoms abated.

The doctor concluded his paper by saying that the subject was one that required further investigation, but thought that the following statements were justifiable in the light of modern

pathology: First, cell activity both of mother and fœtus produced substances pernicious to mother, if not execreted; second, the excretory function was inadequate in the pregnant; third, the unknown accumulated poison caused the eclamptic seizure; fourth, the convulsions are believed to be the result of anæmia of the brain, caused by the contractions of the arterioles, probably by direct action of some poison on the brain substance itself. On account of the intense muscular action, the blood was driven into the internal organs, brain, kidneys, etc., causing apoplexy and abrogation of the renal functions, etc. Treatment, he said, should be directed to elimination,—diminishing of the nervous sensibility; if convulsions ensue, to save the child without adding risk to the life of the mother · and, lastly, to guard the mother from injury during the attack.

Dr. LAPTHORN SMITH expressed entire approval of what Dr. Campbell had said in his paper. He thought the cause was due to pressure on the circulation of the kidneys, causing nephritis. He did not agree that the anæmia of the brain was the beginning of it. The nephritis caused the albuminuria, the albuminuria caused the anæmia. The indication for treatment was to remove the pressure by lessening the size of the uterus. He favoured the use of chloral to assist in the dilatation of the os and to lessen reflex action. He thought hastening labour did not tend to cause convulsions.

Dr. HARRISON outlined the history of a recent case of his where he employed bleeding,—a remedy he had spoken about at some length in the treatment of the affection at the meeting of the Ontario Medical Association. He bled freely, with immediate and permanent effects. He employed, as well, enemata of chloral and brandy.

Dr. BETHUNE, of Seaforth, corroborated what Dr. Campbell had said regarding his case. He was in favour of bleeding in sthenic cases, not in anæmic; but he regretted that the young practitioners of to day did not know how to perform this simple and often effective remedy.

Dr. IRVING, of St. Mary's, asked if it were proper to give ergot in eclampsia. Did it not cause contraction of the arte-

rioles,—a thing to be avoided? Dr. Smith had said that the pressure of the fœtus *in utero* was the cause of the convulsions. How was it that they often did not occur until after delivery?

Dr. HOLMES, of Chatham, said he was reminded of one thing in what Dr. Campbell had said—the danger of making too cursory an examination of the patient. Dr. Holmes pointed out the benefit derived in causing profuse sweating. He leaned to the theory that the convulsions were due to the circulation of some toxic element in the blood, independent of the nephritis.

Dr. CAMPBELL closed the discussion.

Dr. CANNIFF, of Toronto, then gave an address on "Sanitary Science: Some of its Effects." Sanitary science, he said, was not a distinct and separate science, but rather a development of medical science, and that the medical man should be employed not only to cure but to prevent disease. He advocated that we should have specialists on the subject. He also advocated the same observation by individuals and families in regard to sanitation as is done in the case of the state and municipalities; and, as it was desirable to legislate in regard to preventable diseases, so the principle was equally applicable in relation to individuals and families. It was nobler to prevent than to cure. The principles of hygiene should be taught by the parent and continued in the school. He advocated the principle of families employing a medical man by the year, who should make regular visits and advise as to sanitation. By so doing, sickness would be prevented.

Dr. ARNOTT thought the idea of families employing medical men by the year good in theory, but bad in practice. His experience was such. He also thought it would be a bad education to the family itself. He thought the importance of a knowledge of sanitary science by medical men in the cure of disease should be emphasized, as well as the prevention of it.

Dr. BETHUNE liked the idea of employment by the year, if possible. His experience had been that, having agreed to a certain amount for his services, he was called so frequently as to make it non-paying. If families could be educated up to it, it would be well for the country, and much disease prevented.

Dr. Wesley Mills thought that it would be practicable for the physician to look generally to sanitation, and to be paid extra when specially sent for. Family tendencies would then be understood. Until physicians were employed in the way mentioned, the best results would not be obtainable. He thought the appointment of specialists a good thing, and stated in some places this was being agitated.

Dr. Canniff thought he had been misunderstood. He only intended saying if regulations as to hygiene worked well in municipalities, so it ought to in families. Statistics show that the practice of hygiene is a saving operation,—saving the man and saving the labour.

Dr. Anglin, of Verdun, followed in a paper on "The General Practitioner and the Insane"—a very practical paper. The subject of insanity was one which had been left alone too much by the general practitioner. It was important that he should know more about it, for on him rested the diagnosis of insanity, possibly the administration of treatment, the recommendation to hospital, and the certification of the patient's mental condition. Generally speaking, it was better to advise hospital treatment, but in some cases this would be impossible. It was much less expensive, and the change of environment was generally beneficial. He was glad that the old prejudice against insane hospitals was becoming lessened. It should be taught to the general public that insanity was a disease, not a crime. The Doctor then described the hospital of to-day, showing that it was not a place to be shunned, as was the one of days gone by. If a man were called on to treat a case of insanity, he should recommend a change of scene, the employment of one or two trained nurses. Relatives generally made poor attendants, as did also ordinary sick nurses. Sleeplessness should be immediately combatted by giving moderate exercise, a drive, a meal or a hot bath. Of remedies, alcohol, hyoscine, paraldehyde, suffonal, chloral hydrate (and opium in cases due to pain) were useful. Constitutional treatment should be attended to strictly. The Doctor outlined the points necessary to observe in making out certificates, laying special

emphasis on the recording of phenomena actually seen by the examiner. He criticized the stupid methods of admission in certain States, but commended the progress of Canada in this matter. A certain amount of formality was absolutely necessary, and the doctor should be exceedingly exact in replying to the questions on the blank used. It was wise to find out all one could about the patient before interviewing him. Deception should never be used with the patient, for this often rendered him less amenable to treatment. It was sometimes exceedingly difficult to detect symptoms, so careful to conceal them was the patient often. Three things should be noted—acts, appearance and conversation. The patient should be told frankly that he was *sick* and needed *hospital* treatment.

This paper was discussed by Drs. Matheson, Arnott and Mills. Dr. Anglin closed the discussion.

Dr. HARRISON, of Selkirk, then followed with a paper on—"Is Alcohol, in all Doses and in all Cases, a Sedative and Depressant?" He had formerly thought alcohol the great stimulant, and the physician who failed to administer it was culpable. Temperance physicians had refused to administer it, for fear their patients would acquire the drinking habit. The subject was a scientific one, and should be discussed as such. If alcohol was a powerful sedative and depressant, as some claim, the use of it for so many generations would have caused untold injury, and the number of deaths caused by using a sedative, instead of a stimulant, unaccountable He spoke of a case in his practice of post partum hæmorrhage, which promised to end fatally, and while preparation was being made to inject blood, brandy had been administered freely, per os and per rectum, and under it the patient rallied and recovered. In a case of typhoid fever lasting seven weeks, where the patient seemed dying of exhaustion and heart failure, after two weeks of a diet of port wine only the patient recovered as if by a miracle. Another case of puerperal fever—an extreme one, with pulse 140 to 150: All medication was abandoned, and brandy and port wine in a little milk and beef essence were given, and effected a permanent cure. When a patient was

nearly moribund—when a feather's weight in the wrong scale must be fatal—and brandy was administered, if the brandy acted as a sedative the result must be fatal, but the fact that the patient rallies shows it cannot be a depressant.

Dr. ARNOTT said he had some diffidence in discussing the subject, as he seemed a "lone bird in the tree." His views were, and had been for years, that alcohol was not a stimulant in its direct action. The question under discussion, in other words, is: "Does alcohol, or could anything, under varying conditions give the same results?" Suppose the principle were applied to water; although under some circumstances it causes death, no one would say it was a poison. The direct and primary action of water is nourishing. The profession are not divided at present as to the sedative action, because all use sedatives to bring about a stimulating result. There was, he said, not so much difference between Dr. Harrison and himself as appeared on the surface. Although opium was a sedative, we get stimulating results from it. He mentioned a case of his in practice—the setting of an old lady's arm, a Collas' fracture. He had given her a great deal of pain, and suddenly she became white and pulse imperceptible. He was afraid the patient was dying. He thought it clearly the result of shock, and called for whiskey, not as a stimulant (being opposed to that), but to relieve the shock. None being in the house, he gave the patient chloroform, after which the pulse became strong, and the operation was completed. He had another case of typhoid fever, in which the depression was very great, and in which he administered whiskey in large doses—an ounce every hour. Being alarmed, he called in another doctor, and they administered $\frac{1}{8}$ grain of morphia hypodermically, and that did much more good.

Dr. BETHUNE said alcohol was in one case a stimulant, in another a narcotic, and in another a sedative, according to the condition of the system. If taken in big doses it was a narcotic; perhaps some of them had felt the effect. (Laughter.) In neuralgia it was a sedative; when people took a tumblerful at night to put them to sleep, it was a narcotic.

Dr. GARDINER, London, said that by the use of alcohol the pulse got stronger, the eye brighter, the skin warmer and the body invigorated. Whether it was called a stumulant or narcotic, it should not be used carelessly, but only when there was reason for it.

Dr. MILLS, of Montreal, thought it was a subject demanding careful scientific study, especially as its elementary principles were taught in the public schools. The doctor said the necessity for experiment was absolute and they were not yet prepared for dogmatism. He condemned the present school books as extreme. The children were taught that alcohol under all conditions was a poison. The medical profession should do something to counteract this.

Dr. ARNOTT said that alcohol was termed a stimulant, an anodyne, and a narcotic. This was perplexing. The fact that the hospital having the lowest death rate in London, England, did not use alcohol he made his excuse for speaking on the subject.

Dr. LAPTHORN SMITH spoke of the experiments showing the effect of alcohol on the muscular power, how that soon after administration of the alcohol the individual tested could lift much more, but when the reaction had set in considerably less than at first. It was certainly a temporary stimulant. It affected the great sympathetic which contracted the arterioles, more blood being forced into the coronary arteries, thus strengthening the heart.

Dr. H. A. MACALLUM said there seemed to be physiological evidence to show that all narcotics and poisons were stimulants. The respiratory stimulus was a poison. It could not be that CO_2, the respiratory stimulant, and ultimate poison to that centre, could be a stimulant as secondary to narcotic action. All stimulants for secretion, respiration and circulation ultimately were narcotic and poisonous. Anæsthetics were stimulants in small doses. It could not be argued that CO_2 is a natural stimulant and acts as a narcotic.

Dr. HARRISON closed the discussion.

Dr. B. E. MCKENZIE presented a bad case of lateral curva-

ture, in which he had used a rawhide spinal support. The patient could be stretched four inches, so much was the curvature. He knew of no other treatment in such a case. It was fitted to a plaster of paris model and had no seams. It fitted smoothly and seemed to afford much relief. This was the first time Dr. McKenzie had tried it.

Evening Session.

Dr. Hingston, of Montreal, gave the address on surgery. It consisted of an historical review of the subject. He held that in Egypt, before the time of Moses, many so-called modern operations were practiced. The Greeks considered surgery a divine art. Pythagorus, about 600 B.C., elevated surgery to a science. The Egyptians and Greeks practiced nephrotomy, used tents, issues and moxas, and trephined the skull; they also practiced percussion as an aid to diagnosis and drew fluid from the chest. Hippocrates made use of immediate auscultation as a means of recognizing disease. But the fall of the Macedonian empire seriously interfered with the progress of surgery. The Alexandrian school were skilful in abdominal surgery. They first used the catheter. Two thousand two hundred years ago Ammonius crushed stone in the bladder. There was another retrogression in science at the time of the Cæsars. Celsus found that there might be rupture of brain substance without fracture of skull. He was the first to ascribe this to *contre coup*. Heledonius opened into the bronchial tubes. The Arabians were credited with greater proficiency in surgery than history will justify · but to them we owe the preservation of Egyptian surgery. The suturing of wounds was practiced by Albicasis, also the incising of the kidney for abscess. The Council of Tours forbade the clergy to spill blood; by this prohibition surgery was divorced from medicine and got a serious set back. When Columbus discovered America the physicians of Europe were not superior to medicine men of the aborigines of America. Vesalius laid the foundation of modern surgery. Paré advocated cupping for displacements of the uterus. Wiseman, in Britain, was original but crude; his reports of successful treatment of cancer are so remarkable as to arouse

suspicion as to the accuracy of his diagnosis. Wiseman believed in the magic royal touch for the king's evil.

Surgery, the speaker went on to say, preceded medicine in this country. The Governor of Nouvelle France, was always seeking for surgeons to be sent out; the people did not need physicians. Dr. Hingston then described the marvellous advances of surgery during the past forty years in the treatment of many surgical cases, but was sorry that in some cases this divine art had degenerated to a commercial question, owing to the greed for gold spirit which had extended to some of the members of the profession. He especially cauterized the practice of those one-idea gynæcologists who referred all female disorders to the uterus and instituted a daily tinkering process as a means of obtaining money.

(To be continued.)

Selections.

Maternity Hospitals and their Results.—The following paper by Dr. Joseph Price, of Philadelphia, appears in the *Medical and Surgical Reporter* of Sept. 9th :—

Every obstetrician's dependence in emergencies must be upon himself. If the resources of his information and skill are so limited that he must call in extraneous aid, the lying-in woman is exposed to other risks than those of delay—those of dangerous drugging or ignorant surgical interference. The resourceful surgeon is one with many experiences, and the same fact applies to the successful obstetrician. The lessons of three or four hundred maternity cases never yet made an eminently skilful obstetrician—one to be depended upon in all of the many emergencies liable to be met with in lying-in cases.

The problems, those tests of the practical wisdom of hard earned and well learned lessons, of the very genius of obstetrical skill, arising in many emergencies give no time for settlement by consulting the books, by reference to reported cases or by calling in outside aid. In fact, the lessons of the books in many cases would be misguiding. Through many and pain-

ful experiences, the lessons of sad results, we have unlearned many of the teachings of the old books.

There is grand promise in the fact that the profession of the period has in it the impulse and the spirit to grow away from and above the old benches. One of the most gratifying and hopeful results of the thorough training which comes of wide obstetrical experience is the doing away with the too free use of instruments in delivery.

Certainly with the lessons of more than two centuries of forceps experience we should be able to form an enlightened opinion as to the value or risks of their use. The consensus of the best authorities, of the opinions of men who speak from the most extended observation and experience, leads to the conclusion that the mortality attending non-interference is less than that attending the use of forceps. In this relation our debt is great to the Dublin school of obstetricians. Dr. Clark, for long master of the Rotunda, stands out as the one heroic figure in the van of those pioneers.

The exigencies requiring the use of instruments are not of such frequent occurrence as formerly believed. Now the citing of a case of instrumental interference is usually accompanied by an elaborate statement and explanation of desperate and otherwise unavoidable conditions. We have learned the evil and bad results of hurry; the welfare of mother and child are no longer to be sacrificed to the exigencies of private practice. With the growth of general intelligence our patients become less tolerant of undue haste, they have an enlightened appreciation of the issues involved, and of well-timed and skilful work, and they make few mistakes in their book-keeping, in charging to the correct cause unhappy or fatal results. It is not a wild prophecy when we say that the time is not distant when in all dense communities obstetrics will be a specialty, and in the ranks of its practitioners there will be the cleanest, most cultured and scientific men of the profession. The issues, the often fearful sequelæ of ignorant or ill-advised treatment in cases of midwifery, furnish a strong warning, a resistless argument against the employment in such practice of the inexperienced and unskilled.

The advantage of patients in maternities over private lying-in patients lies in the fact that they are under the strict

surveillance of experienced medical men, aided by nurses trained in all the principles and methods of their art. All the environs and appointments are under the control of well-defined and intelligent authority,—sanitary and hygienic conditions are of more easy control, the evils of dense crowding can be avoided, and an ideal cleanliness more nearly attained. There are less injuries in maternities from attempts to expedite labour. And from this cause there are more evil consequences than from delay or any other cause; nature is interfered with in doing her part of the work. There is no branch of medical science in which we have so many understood certainties as in obstetrics.

Where our knowledge is defective or incomplete, it is not due to lack of authentic source, of easy and approved means—but to the lack of energy of use. There exist open opportunities of bed-side experience and training, many open doors for clinical study and research, yet there are very many—and the best—kept closed. For this the profession is responsible. It is their mission and duty to heal—it is also their mission, duty and royal right to the use of every avenue through which the best lessons are taught. The tyros going out from our college benches into fields of private practice are ill-equipped for successful obstetrical work; they carry many risks to mothers. We are not claiming that the science or its practice in the hands of any one is perfect,—that cannot be claimed of anything in which our humanity is involved.

There has been gathered a very rich harvest of the results of cleanliness in maternities and private obstetrical work, and we have in these results promise of yet better results in the future. As we grow to know how very simple is our art, how near to nature is its successful practice, we feel less disposed to take off our hats when we speak of our individual work and its success.

It has not been long since obstetrics was the one department and dominated the field of gynecology. Progress has been such that gynecology no longer suffers the reproach of being a pseudo-science, working by guess, by vague suspicion, gaining advances by mere experiments upon human life, groping in the dark in attempts at settlements of problems of health and life, but has grown to work hand in hand with

obstetrics, and is gaining increased recognition wherever suffering exists. The lessons of both have come to live with us. In both experience teaches the value of cleanliness—that we have no right to tolerate filth in any of its forms—nor to blunder in our work.

The signal advances in obstetrics, as in gynecology, are of our own generation. As to many anomalies, obscure troubles, the general practitioner has become enlightened, he has acquired the important knowledge which enables him to determine where purely medical or palliative treatment fails, and the only resource left is surgical interference. The obstetrician is not practising what his forefathers wore out and threw away. Old theories and beliefs have been gradually giving way before the assault of our better facts. Each day finds fewer superstitions in practical medicine and surgery. Dr. Angus Macdonald, in a Report of the Royal Maternity and Simpson Memorial Hospital, Edinburgh, condenses truths worthy of mention here: "The more I see of midwifery and gynecology, the more I am confirmed that the safety of patients urgently requires the diligent use of cleanliness. I feel more and more satisfied that operations on the genitals, of whatever sort, are specially dangerous, not so much because of the inflammatory reaction, which is likely to be severe in itself, as because there is extreme facility for septic absorption. This is particularly the case where, from aggregation of septic influences, there is specially apt to arise putrescent materials of highly toxic qualities."

The reduction of the mortality in lying in hospitals from 20 per cent. to almost nil cannot be credited so much to the use of antiseptics as to a more enlightened and strict sanitary regime, a more strict cleanliness. The constant improvement in our operative statistics testifies the value of surgical cleanliness, scrupulous antiseptic precautions. The great increase in the average of city life is largely due to greatly increased observance of health conditions. The measure of the physician's responsibility in these lines cannot be over-estimated.

He can kindly, where that will serve, or sternly, where that is needed, urge the lesson that to live amid bad hygienic conditions, in an atmosphere of domestic malaria, means disease and death,—that pure, healthy in-door air, freedom from

poisonous effluvia and musty odours, cannot be had without the most scrupulous cleanliness, the removal of all bodily excretions, of everything offensive, animal, fluid and organic. There are out-door impurities, sources of air pollution, we cannot at all times and under all circumstances guard against. Streets, alleys and courts are often sources of atmospheric infection over which we have little or no control. The most we can do is to educate public sentiment in the line of a wise sanitary policy, and back its administration.

The members of the medical profession have it in their power to make themselves the sovereigns in the enforcement of the wise dicta of sanitary science. They are the real educators in everything that pertains to the public health. The people are willing and anxious to learn the lessons through the practice of which they can avoid disease. The more the obstetrician and medical men generally press home upon the public the vital truth of the preventability of many diseases, the sooner we will have a popular understanding of the simple principles of sanitary science and a rigid practice of cleanliness. Let the physician teach the risks of filth infection to his clientele—send the lesson into private homes that bedding, carpets, floors, walls, every appurtenance and furnishing, may be a source of uncleanliness, that all forms of excreta and impure gases emanating from decaying organic substances are so much pollution.

The apology for this paper, if any be needed, lies in the importance of the subject, its importance to the profession, to communities, and its yet more grave importance to mothers. I would echo the voice of Holmes loud enough for warning: "The woman about to become a mother, or with her newborn infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden or stretches her aching limbs. The very outcast of the streets has pity upon her sister in degredation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victim by a machinery as sure as destiny, is arrested in its fall at a word which reveals her transient claim for mercy. The solemn prayer of the liturgy singles out her sorrows from the multiplied trials of life, to plead for her in the hour of peril. God

forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly or selfishly!"

I presume a long and somewhat varied experience entitles me to speak plainly, and the time for speaking plainly is always present, always *now*. As to the *conscience* with which I speak, that is mine. There are some things about which our national and international congresses should speak in no uncertain tones; there are some things that we here at home and our honoured brothers of republics to the south of us should insist upon; everything associated with our profession, with our schools and all their agencies, with respective fields and departments of practice, is a sacred trust. A trust something more than narrowly individual, it is communism in all that it involves, its bond is to prolong and promote healthful human life. The trustees of our schools and maternities hold the highest trust existing in our communities, a trust that reaches helpless mothers and their more helpless offspring, that reaches the unfortunate in every grade of life, and humanity is their care. Yet they only too frequently do not exercise wisdom and deliberation in the choice of teachers and masters. The time is fortunately not distant when they will be held to more strict account. We have long since proven that maternal deaths are avoidable, deaths not only from sepsis or child-bed fever, but from other causes as well; death in child-bed means an error of omission or commission. The mortality in maternity hospitals is now the lowest. Maternities have settled about all the important disputed points in obstetrical practice. The most perfect work has been done in the maternities of Baltimore, Philadelphia, New York and Boston. Not only has this work been perfect from the standpoint of a low mortality, but the hospitals in which it has been done have done a great work in practical teaching, demonstrating beautifully two points: 1st, That a maternity can be run with a nil mortality; 2nd, That it can unite with its humane purpose practical teaching with a nil mortality. All this has been disputed both at home and abroad. The time is not distant in the future when the directors of maternity hospitals will not dare to appoint a man to direct or have official charge of such vital interests without a rich practical

experience and sound judgment. They will be held responsible for the success of their trust, and it is to be hoped will be held criminally responsible for the choice of a person to such trust with no more pride of personal cleanliness and cleanliness of environment than a stable boy, dirty in all the term implies, morally and personally.

It is the teaching of this subject that is of so much vital importance to the profession. Very much of it is fed out from the old books, and is worth very little more to the student than is an old almanac for dates. The student gets little of clinical or practical value, and goes out from the college to study the science and art of his work upon helpless patients. Every day brings to our notice sad illustrations of the result of such miserably poor and inadequate obstetrical teaching. The directors or managers of our schools are responsible for imperfect, inadequate or false teaching; the profession and the community must and do so hold them responsible. They hold them responsible for the incompetent and unfit men they select to teach; for the injustice done worthy students, and for the irreparable mischief worked in communities by obstetrical ignorance. Teachers should not be appointed on account of their pedigree, their family connections or their wealth, but for their brains, their knowledge of their subjects, their love and faculty for teaching, and for the honour and advancement of the school. About all some of those now holding responsible chairs in some of our oldest schools have to recommend them is a volume of prefixes to their names, suggestive of a medical and biographical index. The shout goes up when doting relatives, maiden aunts and friends secure their appointment, "Now we have a professor of favored parentage, one dating beyond our accepted scriptural Genesis." At the claims of this class the Darwinian would indulge in a philosophical smile and note fresh evidence in favor of his theory of the descent of the human species. There should be no small men, mentally or morally, in the faculties of our great schools. The work of none of us is so well done but that it cannot be out-done—better done. Let each man go back and study the history of his own neighborhood in connection with obstetrical practice, and he will scarcely escape being startled by the result.

Recently, within the past few weeks, several lovely women, those moving in the most cultured and refined of Philadelphia society, have died in child-bed. Now, these untimely and sad deaths are too frequent. In a majority of instances they are avoidable by the exercise of enlightened precautions, through the practice of that skill which comes of experience, and without which no man should enter a lying-in chamber. The old mock, tearful reverence, the pious humility with which the deaths in these cases are credited to providential dispensation, will not longer answer. With each death the demand will grow stronger, more universal and angry for better and more thorough obstetrical teaching.

I speak for the pride and best hope of our land, the American student; for the best loved, the purest and noblest of our own or any other land, our American mothers.

Treatment of Opium Poisoning.—The following is an extract from a paper read by Dr. J. S. McLain before the Medical Society of the District of Columbia, April 19, 1893, and printed in the *Archives of Pediatrics*, June, 1893: The opinion which has been gaining ground for several years seems now well established, that belladonna and its alkaloids are of little use in the treatment of this form of poisoning, W. H. Thompson going so far as to state that "the cases in which the opium narcosis is really dangerous are those where belladonna is useless, if not injurious." Lenhartz, in his experiments upon dogs for the purpose of satisfying himself as to the antagonism of atropia to morphia, came to the conclusion that while certain symptoms were ameliorated,—for instance, there was immediate dilatation of the pupil, quickening of the pulse and increase of heart pressure temporarily,—in no case did the alkaloid have any effect upon the more dangerous appearances, the coma, cramps and convulsions, and hence he holds that the opposing power is limited, and of no avail in serious cases, the atropine increasing the heart depression already brought about by opium, and that "the physiological antagonism between atropine and morphine is not established by a single authentic observation." Bartholow says, "It is a fatal error to attempt to restore a patient in opium narcosis to complete consciousness by repeated doses of bella-

donna," and further on states that "the utility of belladonna consists in its power to maintain the action of the heart and the respiration until elimination has taken place." Lastly, Dr. T. D. Smith, of Louisville, Ky., writing upon the subject, remarks, "In order to root out more rapidly the prevalent error as to the use of atropine, it would be better that it be not mentioned at all in connection with the treatment of opium poisoning."

Leaving, then, atropia out of the question, except in the most minute doses (according to Bartholow, 1-120 of a grain, repeated, and its effect carefully watched, is ample), and for the purposes above mentioned, upon what is the physician to depend to conduct his patient safely through his lethal sleep? In my opinion, the answer to this question,—after every means has been resorted to to hasten the elimination of the poison from the blood through the usual channels, the kidneys, the skin, the liver, the intestinal and salivary glands,—the main dependence is to be placed upon the galvanic battery, artificial and forced respiration. Hypodermics of tincture of digitalis, 10 to 20 drops, may be given with the object of sending the blood more quickly to the lungs, to obtain a greater degree of oxygenation. Strychnia and caffeine, especially the latter, are also useful for this purpose. Firm and gentle pressure over the veins in the direction of the heart has been recommended. The cold douche is of the greatest service. An excellent manner of applying cold water is by means of a strong atomizer, spraying it freely upon the head and naked chest and back. It is always well to guard the patient against cold draughts during treatment, for the reason that an attack of catarrhal pneumonia seems particularly liable to follow poisoning by opiates.

The practice which has been in use for ages, and is still recommended, of whipping the patient, pinching and pounding him to keep him roused, seems to me not only useless but bordering on the inhuman; if his condition is such that these exercises serve to keep him awake, then they are not needed, and if the coma is profound and prostration great, he is beyond the stage where bodily pain can affect him, the sensory paralysis being complete. T. D. Smith (above quoted), regarding this custom, says, "The spectacle of a crowd gathering around

a thoroughly narcotized person, holding him limp upon his feet, trying to walk him about, is surely one of the most pitiful folly."

Inhalations of ammonia, and, better still, of amyl nitrite, have proved of the greatest service. While the action of the amyl may be antagonized, theoretically, by some of the agents above mentioned, the antagonism is of little moment, due to the difference of time in which these separate drugs are taken up by the organism.

Where death is threatened, through default of the respiratory centres, great benefit may be expected in the use of trinitrin; a single drop of a ten per cent. solution in alcohol being placed inside the mouth, on the tongue or lip, generally produces an advantageous effect in a short time, this dose to be repeated at intervals as indicated. Administered in this way, the effect is as rapid as when injected under the skin, time is saved and the administration is far less troublesome.

If signs of failure of respiration continue, the battery should be brought into play, applying one pole to the nape of the neck, the other to the epigastrium. It is well also to apply a strong, stinging current to the legs, arms and chest, even before this stage. Lastly, artificial and forced respiration should be resorted to long before default thereof makes it absolutely necessary, and this should be continued for hours if needful.

In reference to the last mentioned suggestion, the use of "forced respiration" (the apparatus for the administration of which you see before you, and which will be demonstrated later), the method was originally devised and presented to the profession by Dr. George E. Fell, of Buffalo, N.Y., who read a paper before a section of the International Medical Congress in Washington in 1887, giving the reports of his first case, which occurred July 23, 1887. In this instance the patient had taken a dose of chloral, and, finding that did not produce the desired result, followed it up with a quantity of morphia sulphate, estimated at 20 grains. He was in an extremely perilous condition when forced respiration was instituted by means of the tracheotomy tube, the "dilatation of asphyxia" having taken place, but after use of the instrument for two hours and a half, was considered out of danger, "the ordinary

tracheotomy tube was substituted for the tube of the apparatus, and the patient allowed to breathe for himself." From this time on—with the exception of some rather serious complications, not, however, ascribed to the poisons—the case went on to complete recovery. Since that time, between twenty-five and thirty lives have been saved by the use of forced respiration, most of them cases of opium narcosis, and many of them by the personal service of Dr. Fell; in other cases, the patients have been kept alive for several hours, but either the treatment was begun too late, or the lethal effects of the agents used were too great to be overcome, the fact that life was kept in the body longer than would otherwise have been the case showing the value of the method. With such a record, my impression is that forced respiration, its safety having been demonstrated, is destined to take the place of all other systems in every case where its use may be indicated.

—Dr. McLash, of Houghton, Mich., was summoned to a case injured in a saloon fight. Because he did not respond with desired promptness, he was shot by one of the parties. This is the first instance in which we have heard of a doctor being shot for failing to hurry to an injured person.—*Amer. Lancet.*

—It does not often happen, because patients are not generous nor practitioners so scrupulous, that a physician returns a check for $500, voluntarily tendered, on the ground that the medical service rendered was not worth so much money. This incident, pleasant to chronicle, occurred lately in Philadelphia.—*Med. News.*

—Medical practice is dangerous in Ireland. Dr. Alfred Brown, of Mount Pottinger, was visiting a patient named Galway, when the patient fired at him with a revolver concealed beneath the bed-clothes. The bullet missed its mark, whereupon Galway shot himself in the mouth, inflicting a serious injury.

—Cyrus Edson recommends for children who do not thrive as they should, the administration of small doses of cod liver oil in the form of some reliable emulsion, because even the best artificial food is necessarily deficient in fat.

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CANADIAN MEDICAL ASSOCIATION.

The twenty-sixth annual meeting of the Canadian Medical Association was held in London on the 20th and 21st Sept., under the presidency of Dr. Charles Sheard, of Toronto. The attendance and general interest in the London meeting was fully equal to any of the past meetings of the Association. In many ways the meeting was a decided success. The members present are greatly indebted to the kindness of the profession in London for the pleasantness of their stay. Dr. Sheard, in his able and eloquent address, touched, among other subjects, on the necessity of having a Central Board for the entire Dominion. The necessity and even urgency of this matter is being constantly referred to by speakers in all the Provinces. It appears that the time is about ripe for a final and successful effort. With this end in view, the Association nominated a committee composed of able and progressive men from the different Provinces. Elsewhere we report the chief features of a scientific interest connected with the meeting. The social part consisted in the usual dinner, together with a great deal of generous private hospitality by the London brethren. Dr. Bucke, with his colleagues of the London Asylum, entertained the members to a luncheon, which proved to be an enjoyable affair. Altogether, the London meeting of 1893 was a decided success.

We are pleased at the wisdom of the next presidential choice. Dr. Harrison, of Selkirk, has been a regular attendant at the meetings since the first. He well deserves the honour of the presidency.

THE CONTAGIOUSNESS OF TUBERCULOSIS.

At the meeting of the Montreal Medico-Chirurgical Society held March 17th, 1893, there was commenced a discussion on Tuberculosis, with special reference to the mode of its transmission from animals to man, man to animals and man to man, and also the means of preventing the spread of the disease. It was opened by Dr. McEachran, Dean of the Faculty of Comparative Medicine of McGill University, who dealt with the relationship between man and animals in the way of communication of disease, the one to the other. He was followed by Dr. Adami, Professor of Pathology, and Dr. Blackader, Professor of Materia Medica in McGill University.

The importance of the subject was recognized by the members present, as well as the able way in which the subject was handled, and, as the hour was late, the discussion was postponed until the next meeting of the Society, two weeks later.

The papers by Drs. McEachran and Adami were published in the May number of the JOURNAL, and that by Dr. Blackader in the July number. The discussion provoked is in the last number of the JOURNAL.

Dr. McEachran gave the results of his own investigations, and his experience has been that, among cattle, tuberculosis is a most contagious disease, and that the introduction of a single diseased animal is sufficient to spread the contagion through a whole herd. It is also a significant fact that wherever cows' milk is in free use tuberculosis prevails, and that in children, who are fed largely on milk, intestinal tuberculosis is the most frequent form in which the disease appears.

Dr. Adami points out the necessity for careful disinfection of the sputum, especially of phthisical patients, as a great means of preventing the spread of the disease from man to man.

Dr. Blackader dwells more particularly on the special means to be taken to carry out the disinfection and other means of prevention.

On reading over these papers, with their array of convincing facts, the thought must occur to many that by the custom of burial of the dead the disease is greatly spread. Each body

infected with tuberculosis put into the ground may serve as a focus from which many cases may occur. The burial in the ground does not kill the bacillus or even materially weaken it; the earth-worms, feeding on the body, ingest the bacilli and spores and carry them to the surface of the earth, there to be taken up by the animals browsing on the grass, or possibly the worms are eaten by birds. This danger may be far-fetched, but it is not altogether imaginary, and is a strong plea for cremation in this as in other infectious diseases.

Do we not read of the "accursed fields" where the sheep died by scores from anthrax, simply because the earth had become contaminated with the virus of this disease through the burial of the bodies of animals dead from anthrax! When we think this over, does it not seem possible that the same may take place with tuberculosis, to some extent at least! Surely this means of prevention should not be neglected in regard to all dead animals affected with any of the protean forms of tubercle.

This discussion, we trust, will make our readers reflect on the responsibility which rests with them as medical practitioners, the responsibility of spreading a knowledge of the causation of this disease and of the means to prevent it. People have been educated up to take precautions against the spread of small-pox and scarlatina, so why not against a disease which is infinitely more fatal than either of these? Let everyone remember the old proverb: "Prevention is better than cure."

CERTIFICATION OF THERMOMETERS.

The Secretary of the Observatory of Yale University makes the following remarks about the results of the examination of the thermometers submitted to them:—

"It continues to be true that only a small percentage of the instruments sold are sent to us for examination. It is presumably true, also, that those which are sent here for certification, by the manufacturers, are carefully selected, and, therefore, far more reliable than the average of those sold without certification. Nevertheless, we are sometimes compelled to reject

25, 50 and even 75 per cent. of those sent us. As a rule, these are not rejected without receiving double the care and time required by the large majority of those to which certificates are accorded.

"When there is taken into account the large percentage which the cost of certification adds to the manufacturer's prices, it is not to be wondered at that when he has succeeded in continuously producing, for a season, instruments with few and uniform corrections, he should point to these conditions as justifying his customers in accepting his instruments without other certification than his own. In those cases of this sort which have come under our observation, we have noticed that apparently the workman, when he no longer has occasion to expect his work to be traversed by a disinterested authority, soon relaxes his efforts at an accuracy which is hardly yet fully appreciated by the ultimate consumer, and his instruments, when they come to us from his customers, are not quite up to the standard maintained when he was continuously, or at short intervals, submitting them to such test: possibly he is not making due allowance for his changing standards.

"It may not be out of place to again invite the attention of our public to some points in the construction of registering clinical thermometers, which are frequently overlooked by makers and users of these instruments.

"In those forms where the index is a short column of mercury—one-third to one-half an inch long—separated from the rest of the mercury by a small bubble of air, the index is often lost by being thrown down into the bulb, the bubble escaping into the attenuated atmosphere of the tube, and when the index is restored the separating bubble is not likely to be of the same dimensions, and the temperature indications will not be the same as with the former bubble. The difference in the lengths of the tube occupied by the old and new bubbles will account, approximately, for the difference in the readings. The bubble should always be as small as is consistent with its function of separating the columns of mercury. The tube should extend sufficiently beyond the maximum readings required, that the

compressed atmosphere at the top of the tube may not force back the index, when the support of the mercury in the bulb is withdrawn by cooling.

"In those forms where the 'Indestructible index' is maintained by a 'trap' near the bulb, the various constructions of this trap may, at certain points, cause the index to drop irregularly when the mercury below the trap has contracted, or may occasion a motion of the index by jumps: in fact, in most of the reliable instruments of this form, it is merely a question of the number of jumps taken by the index in rising one degree; most of those in which the index rises perfectly smoothly and without jumps will justify the suspicion that the index will drop as soon as the mercury in the bulb contracts from the trap. While the index is rising freely the motion may appear continuous, but when the index is within a degree or two of coming to rest and rising slowly, the jumps may, usually, easily be counted. Our recent practice has been that, when these jumps average 0°.1 or less, and the readings repeat themselves throughout within the prescribed limit of accuracy, the usual certificate is given: if the jumps average more than 0°.1 and less than $\frac{1}{6}$°, the readings repeating themselves as before, we modify the certificate by making the limit of accuracy '0°.2' on the same certificate form: and when the jumps average more than $\frac{1}{6}$°, we give no certificate. The process of producing the trap leaves its walls in a somewhat unstable condition, so that moderate concussions may cause particles of glass to separate, which particles, acting as a plug, may temporarily sustain the index, which, when the plug is dislodged, may drop. The contraction here is so small, and the particles of glass so fine, that it is not always easy to detect them. The same dropping of the index may be due to the varying effect of air in the trap."

Obituary.

The Late Dr. Desrosiers.—By the death of Dr. Desrosiers, which took place on the 28th of September, the profession loses one of its oldest members. The deceased had reached the ripe age of eighty years, fifty-six of which he had devoted to the practice of medicine.

THE

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Original Communications.

THE PLACE OF CHEMISTRY IN A MEDICAL EDUCATION.

THE INTRODUCTORY LECTURE IN THE FACULTY OF MEDICINE OF MCGILL UNIVERSITY FOR THE SESSION OF 1893–94.

BY PROF. R. F. RUTTAN.

We meet to-day in conformity with the well established custom of our Faculty to inaugurate by a lecture the session of 1893–94. To-day we plant the sixty-first milestone which marks the progress and development of our school. I need not tell you with what gratification I find myself, though almost the junior member of the Faculty, in the position which my colleagues have been courteous enough to assign to me—a gratification which would be complete were it not for the sense of responsibility which the position involves, a position which my own consciousness assures me might, with greater benefit and pleasure to you, have been conferred on one of the others about me.

One of the chief causes of gratification which the position gives me is that I am able to offer you all on behalf of the Faculty a hearty welcome back to the halls of your Alma Mater, to assure those of you who are now just entering on the threshold of a life of study that this welcome is more than the formal one of a professor to his class, but is that of friend to friend—to remind you that as fellow-students in a profession which demands such sacrifices of time and self as medicine, we all have the same great object in life.

In no profession, perhaps, is this sense of *camaraderie* so strong as it is in that of medicine, no class of students are so true to each other and to their Alma Mater as medical students, and of no other profession are the members so ready and glad to offer each other assistance, when called upon, as those of the profession to which you aspire. I refer to this, Gentlemen, not in any spirit of self glorification, but that I may the more thoroughly impress upon you the fact that your professors are your best friends, and assure you that if you come to them in time of doubt or trouble, the best fruits of their experience and knowledge will be freely and gladly given to you.

I have to congratulate you, Gentlemen of the first year, on entering McGill University at a period in her history marked by such prosperity as the present. It has been her province in the past to set a high standard in the practical and vital branch of education controlled by this Faculty. This duty has been done in the face of grave doubts and difficulties, and this duty our Faculty is now doing, not without the expenditure of much thought and labour, but thanks to our generous friends, without running that risk of financial failure which deters so many schools from adopting the most advanced methods of teaching, and fixing a high standard for their degree.

To a certain extent the laws of supply and demand apply to medical schools as well as to the price of wheat, and there is a perfectly natural tendency in many men towards a school which will give them a diploma for the least expenditure of time, money, and energy. Many schools have come into existence to meet this demand for a short cut to the degree of Doctor of Medicine. So detrimental to the best interests of the community has this undignified competition for students become in the United States, that it was seriously suggested in a recent report by a Commission of Education that every medical school in the country be required by law to provide forthwith an endowment of not less than three hundred thousand dollars. As Oliver Wendell Holmes wittily remarks: "A school which depends for its existence on the number of its students cannot be expected to commit suicide in order to satisfy an ideal demand for perfection."

I say it is partially true that the demand for medical education obeys laws analogous to those which rule the world of commerce, but this is only partially true. The better class of students, as the history of our own institution proves, will always go where a high standard of excellence is required, justly feeling that only when associated with men seeking the highest class of medical education they will find congenial friends, and meet with opponents for college honours who will compel them to exert their full powers.

But there is another aspect of this question, and that is, that the best medical instruction must necessarily be the most expensive, and the most desirable students are by no means those who can easily afford to pay very high class-fees. Well equipped laboratories, good teaching museums and models, large reference libraries, and above all an able staff of professors and assistants, are the necessary but costly features of a great medical school. Our benefactors have set the excellent example of liberally aiding an already tried institution, instead of launching a new one among the many which are now struggling to float, recognizing the fact that by endowing a good medical school they have advanced the thoroughness of medical education, not only by making that school independent of large or small classes of students, but also by enabling it to provide a larger staff of officers of instruction and well equipped laboratories, without compelling that school to make its class fees almost prohibitory.

Before leaving this subject I may add that there is one feature in connection with these recent donations to which I would like especially to call your attention, for it is the one that will continue to give us the keenest satisfaction, and that is that they were bestowed as unsolicited gifts by those who are accustomed to use their eyes in estimating desert, and that this kindly act signifies a hearty approval on their part of our endeavours to advance the knowledge, train the judgment, and perfect the skill of those entering on the profession of medicine.

And so, Gentlemen, it is with a sense of thankfulness for the past, of satisfaction with the present, and of joyful hope for the future that the Medical Faculty begin the sixty-first year of their services to the profession, welcoming their new

friends, thanking their benefactors, and exchanging with each other, their old students, and the Governors of the University, mutual congratulations and good wishes.

The beginning of a new session, the entrance on a new course of lectures, is always an event of great interest to professors and students. The chief interest attached to this period of the University year is due to the fact that it marks the advent of a new class of students. No introductory lecture, therefore, is worthy of the name that does not contain what might be termed its "Freshman's Corner." Herbert Spencer, according to his cold, logical, and scientific ideas of things, would regard you young gentlemen as social units in an embryonic condition. He correctly points out that all social as well as biological advancement is a progress from the general to the particular, a specialization. As your seniors in medicine know well, all embryos, at a certain period in their existence, are more or less alike, and biologists are not able to tell whether a given specimen embryo, at an early period, will become a sheep or a goat, a monkey or a whale. It is only later, when the limbs appear and the head becomes shaped, and we see how it is to go through the world, that it becomes easy to tell what manner of creature it intends to be. Similarly, as boys we were all more or less alike, and though past the boyhood stage, you, for instance, still possess many general but useless characteristics, which you have in common with young lawyers, curates and business men; but now that you are about to differentiate into physicians and surgeons, you must allow those useless appendages of your mind and character to atrophy and disappear from disuse, and develop, by calling them into special activity, your powers of reason and observation and knowledge of humanity in sickness and in health, in order that you may become adapted in the kind of your intelligence to your future environment; that is, to drop the metaphor, you have deliberately and fully chosen medicine as your profession. The world demands, at any price, men that are absolutely fitted to their position. You should, therefore, cultivate in every detail those qualities of mind, of person, and of manner, that will enable you to fill the place that the world reserves for the great physician. Your curriculum of study will not do all this for you. Much must be acquired by personal observation and thought.

It has been said that we all go through the world backwards. We see clearly the path we have travelled, but what is to come is either absolutely unknown, or indicated only by that shadowy knowledge our experience has given us. When we see others in whom we are interested coming blindly along the way we know so well, the impulse to shout back a warning or two is almost irresistible. Let this be my excuse for inflicting on you a little, a very little, of what is recognized in our profession as advice gratis. I do so entirely from a sense of duty, knowing full well that you will not be long here before you get more advice than you will know what to do with. It will pour in on you from all sides, and it will all bear the stamp of the genuine, disinterested article. I shall make this part of my address very short, as I am in full sympathy with that class of healthy-minded young men to which the great majority of you belong, who think twice before asking advice, and then think again before acting upon it. The first advice is: Do not let anything you hear from me stand you in the place of your own thoughtful observation and enquiry. Think out your own view of the profession honestly, liberally, and truthfully. You are entering a profession; you must, therefore, cultivate perfect freedom of personal judgment, and be conscious of your own responsibility. Your time is short; divide it up economically, and do not waste your odd half hours. Be particularly careful of your health; nothing is worth so much to you as that. Do not fear your examinations; above all, do not cram for them. This stuffing your brain with shapeless masses of unorganized learning is the worst possible preparation for examinations. Do not try to commit your text book by rote. No text book, not even Grey's Anatomy, has any claim to be verbally inspired. Make the thoughts on every page your own, and you will find no trouble about clothing the ideas in words.

I have selected as a topic for this lecture one which, though bearing on my own special department, will, I trust, be of sufficient general interest to justify its discussion on this occasion. The subject which I have taken is "The Place of Chemistry in a Medical Education."

First of all let us examine for a few moments the influence that chemistry and the study of chemistry have had on the development of medicine.

Chemistry took its rise from alchemy. It sprang up among those scientific dreamers of the first centuries of the Christian era, whose guiding star in their search for knowledge was their belief in the transmutation of the baser metals into gold. Their theory of the constitution of matter led them to believe in the existence of a sort of ferment, at the touch of which transmutation would occur. This philosopher's stone was also regarded by many as a panacea for all human ailments; so we find thus early the efforts of a class of men turned towards the discovery of a universal medicine, rather than of inexhaustible lucre. Alchemy, although almost divorced from medicine of the time, indirectly contributed not a little to its advancement. The later alchemists, despairing of finding this magic substance in the mineral kingdom, sought for it in the products of animal life. All parts of the human body were assayed. The philosophy of the period taught them to regard man as an epitome of the universe, a microcosm, and his body as a sort of mysterious agent by which the viler material composing his food was transformed into the nobler thinking individual. They naturally concluded that he must possess within him some great transforming agent, and that substances that remained for a long time in the body must be strongly impregnated with this powerful transmuting substance.

Besides many less important results, this search for the philosopher's stone in the human body led to the discovery and partial isolation of urea, uric acid, phosphoric acid and the element phosphorus, and thus gave us the first facts in physiological chemistry. The history of these fruitless endeavous to find a universal medicine, though, properly speaking, merely the history of a superstition, will always prove interesting to the student of science as a record of the strange phases through which scientific knowledge has passed in the course of its slow development; and also of the difficulties and obstacles against which the human intellect has had to struggle in the past, while seeking a solution of the great problems presented by nature.

Towards the end of the fifteenth century chemistry began to throw off the yoke of alchemy. It was just at this period that independent criticism began to spread, and traditional

beliefs to lose their power. The inductive method of reasoning, gradually forcing itself forward, called into existence the first indications of experimental science. This dawn of a new era in thought, which ushered in both chemistry and medicine, found its most powerful expression in the Reformation itself. Although chemistry did not entirely free itself from the fascinations of the hermetic doctrines until a much later period, another aim came into prominence, which gave it a distinctly scientific character. Medicine and chemistry were to be conjoined in the most intimate manner, for their mutual benefit and advancement. The leading physicians of the period became the chemists; as chemists they discovered new remedies, prepared them carefully, and determined their constitution, while as physicians they tried and explained their physiological and therapeutic action. It is to this interaction of medicine and chemistry that this period in the history of science owes its peculiar characteristics. The result was an enriching of both.

Chemistry passed from the cloisters and private laboratories to the universities—passed gradually from the control of vain dreamers and charlatans to that of a learned, and, for the period, scientific profession. Medicine, on the other hand, received from this union the greatest impetus in its history. Doctors became sceptical regarding the infallibility of the works of Galen and Hippocrates, and began to observe and record for themselves. The spirit of independence induced by laboratory experiment and observation extended to their daily practice, and a more careful study of the symptoms of disease followed. The fundamental object of chemistry then became not to make gold, but to prepare and examine medicines; and the knowledge of chemistry thus acquired led to the doctrine that the healthy human body is but a conjunction of certain chemical matters—a receptacle containing chemicals acting in a fixed way. When these underwent change, illness resulted, and the latter, therefore, could be cured only by means of chemical medicines. The spread of this doctrine resulted in the overthrow of the old school of Galen; but, of course, any successful treatment based on such an hypothesis could only be possible when chemistry had attained a higher development.

However, the important fact remained that medicine was now no longer guided by tradition, but by a scientific hypothesis which took its origin from human observation and experiment. In bringing about this union of chemistry and medicine, which was so mutually helpful, no one effected more than Paracelsus. His true name was Philip Hochner, but, on entering his medical course, he assumed the rather more pretentious name of Phillipus Aurelius Theophrastus Bombastus Paracelsus von Hohenheim. Although he was a pretentious charlatan, a man of widely extravagant and dissolute habits, yet the force of impact, with which this strange, erratic meteor met the opposition of his time, caused the whole fabric of mediæval medicine to totter on its base. The complete discomfiture, however, of the disciples of traditional medicine was effected chiefly by his successors, von Helmont and Silvius, with whom should also be associated Libavius and Glauber.

The views of Paracelsus and his school are naturally seen to be bristling with ridiculous errors, when examined from the altitude attained by medicine of our own day; yet the progress caused by their introduction was very great. The highest talent of the day was enlisted in the ranks of the medical chemists, to whose work he had given such impetus, and to him we owe the discovery of many facts in treatment and physiology, that have remained true to the present time. He was the first, for instance, to recognize the incorrectness of the doctrine that the heart was the centre of heat. His acute observation first called attention to the connection that exists between gout and urinary calculi. His reputation, however, rests chiefly upon the number and importance of the new remedies which he introduced. He was the first to employ as internal medicine the salts of mercury, lead, and antimony, sulphate of copper, and the various preparations of iron. All this, too, was done at a period when it was not the thing to use chemical medicines (and what greater condemnation, even in our own time, could a new departure in therapeutics receive?) No; the orthodox medicines of that period were of a different type. To give you a faint picture of medicine of the fifteenth century, let me quote a few ideas of the great Galen. The following is taken from a chapter entitled,

"The Head and His Parts," in a book of medicine of the sixteenth century. Galen sayeth: "The head is divided into four parts; in the fore part hath blood the dominion, choler the right side, melancholy in the left side, and flegma beareth rule in the hindermost part." In anatomy and physiology such ideas as these prevailed: The spleen was the centre of wit; the size of the brain increased and decreased with the moon; the function of the liver is the seat of love; the lungs were employed to fan the heart, which, in turn, was the centre of animal heat. Based on such physiology, you will readily understand the scientific necessity for this prescription: "Take the right eye of a frogg, lap it in a piece of russet cloth, hang it about the neck, it cureth the right eye if it be inflamed or bleared; and if the left eye be grieved do the like by the left eye of the said frogg." *Similia similibus curantur.* History repeats itself. We have heard of the homœopathic surgeons in the progressive republic to the south of us. Here we have homœopathic ophthalmology in the fifteenth century.

I have thus dwelt somewhat at length on this period in the history of medicine, on account of the effect which chemical views and knowledge had on the diagnosis and treatment of disease. The solution of the problem sought by these old physicians was, of course, impossible. On the other hand, the attempt to see in every occurrence in the body a process of fermentation and decomposition capable of explanation by means of chemical reactions had this beneficial effect: the doctors became accustomed to the thought that they might expect little from tradition and speculation, and everything from the examination of facts. Medicine owes much to the perception of this circumstance. Its effect lasted long after the absurd hypothesis which gave rise to it had passed away. Afterwards a new school of physicians arose, who regarded disease as the result of mechanical disturbances, such as stagnation of the blood, and, as they expressed it, of stagnation of the contents of the nerves. A violent controversy raged between this new dynamic school and the followers of Glauber and Libalius. The result was a partial defeat of the chemical doctrine of disease; but the inconsistencies and one-sidedness of both of these systems of pathology ultimately led to a blending of the two. Medical chemistry came thus to occupy a

subordinate position, and in the eighteenth century it became pharmacy only. All medical chemistry was taught in the drug shops, and its sole *raison d'être* was the preparation of medicines. Only here and there dotted about Europe were to be found men who had the time, means, and inclination to study for its own sake a science which had fallen into such disrepute.

The influence of Paracelsus was not entirely lost, and the profession of chemistry did not become absolutely disreputable until medicine came to be governed by another new doctrine. This new theory was an outgrowth of the dynamic doctrine of physiology which was originally advanced by Stahl. It was a compromise effected with the Church. This was the doctrine of animism. It ascribed all physiological and pathological change to an unknown and unknowable animal force. This has survived under the name of vital force, or *vis vitæ*.

Now, this acknowledgment on the part of the profession, that they not only do not know, but could never know anything about either the substances of the body or their mode of action, at once suggested that all scientific investigation regarding the cause of disease was superfluous. It was a wretched delay in the progress of medicine, as the result of this compromise was to close for ages that path in medicine which alone leads to discoveries of value, the experimental method, and to re-open the old path of empiricism and tradition. This belief in an inscrutable *vis vitæ* persisted, to the detriment of both medicine and chemistry, until the present century was well in the forties.

It is natural that such a doctrine, if this negation can be called a doctrine, should have prevailed. It is only human. When one does not understand a thing in science, the easiest way out of the difficulty is to give it a good name, and look wise. If the roots of that name are deeply mired in Greek, so much the better. *Vis vitæ* is only Latin, but that is compensated for by the alliteration. The words seem to have been born together, like the Siamese twins, and, as in the case of the latter, no doctor dare cut them asunder.

To the chemists Justus Liebig and Wohler we owe the beginning of the overthrow of this fatalistic doctrine, and to

them may be ascribed the credit of introducing the modern period of medical chemistry. Of the physiology and pathology of the eighteenth century only the knowledge which experience gained, and scientific observation disclosed, has remained in the possession of later times. Not one of the numerous systems of schools based on animism now exercises the slightest weight in modern medicine. The material having been collected, however, the few well-cut stones of experience and observation remain for use when an architect arises who can find a place for each in a symmetrical structure.

The belief in vital force has now almost entirely disappeared. We know now that the same chemical laws govern the animate and inanimate worlds, and that definite compounds formed in plants and animals can be prepared artificially, as soon as their chemical constitution has been worked out. The conditions under which the constituents of the body are produced we can only conjecture, but that they obey laws different from those which rule the inanimate world is a view which is no longer tenable.

After this rather long historical sketch of the progress of chemistry and medicine, and the objections made to the theory of animism, it is but natural that you should expect me to maintain the thesis that the chemistry and physics of to-day are able to suggest a theoretical foundation for the art of medicine—to indicate a sort of mental *résumé* for all departments of the healing art. Such a brief description, or formulæ resuming all medicine chemistry has not found and may never find; but of this you may be sure, that its method of seeking for one is the sole possible method, and that the truth reached by this method is that which will most permanently satisfy the human judgment. You would misunderstand me if you imagined that I think it even possible that the psychical and biological enigmas underlying physiology and pathology can be elucidated in the chemical laboratory. That this can ever be done we have at present no evidence whatever. The gateway to the acquisition of a theory of medicine that will harmonize our past with our possible future knowledge is the experimental method of investigation—a method which is employed by chemistry, which was introduced into medicine, taught and especially illustrated by chemistry, and for the

advancement of medicine must be applied, not only to chemical research, but to biological and psychical research as well. Chemistry got beyond its depth when it undertook to analyze the complicated processes of life into their several factors, and to explain them in accordance with the rigid laws of chemical action, and the lesson taught has not been forgotten.

The goal of chemistry as an experimental science is to offer a complete interpretation of the constitution of everything animate and inanimate; but the goal is an ideal one. It marks the direction in which we travel, but never the spot we shall ever actually attain. For, as the late Kingdon Clifford says, "Scientific thought is not an accompaniment or condition of human progress, but human progress itself."

I have now tried to show that the history of medicine, as a whole, shows progress or stagnation in proportion as the experimental method of enquiry, the process of trying and thinking, has been used or neglected, and that this method is the one that will most surely sift facts from fancy, and, by the orderly arrangement of facts, enable us to see relations previously obscured. I now wish to emphasize the fact that a training in this method is of the highest importance to every student of medicine. You, as students, are not now so intimately concerned with the advancement of science as with the acquisition of the knowledge and training that will make you useful practitioners. "How, then," you may ask, "will a training in the experimental method of enquiry be of such advantage to us? Very few of us will be placed in circumstances that will enable us to become investigators; what we want are useful facts; we wish to be practical men, practitioners." Now, that is precisely what we intend to help you to become; investigators you may be some day, but you must acquire your profession first. It is obviously impossible to advance medicine until one has mastered it; he must first step to the front before his blows can tell in the strife, and I may add—I do not believe anyone can be thorough in any department of science without wishing to advance it. But I will tell you why this training is of such importance: because it educates your seeing powers—your mental vision. It teaches you to observe correctly, and to reason accurately from your observations. That you should receive a training

in this method is almost an essential to success, and it is the surest way of enabling you to assimilate and made part of yourself the very facts you feel are indispensable for your profession. I need scarcely remind you that the whole practice of medicine consists largely in the exercise of the power of observation. To make a correct diagnosis requires this power to be acute and highly trained, or some imperfectly developed symptom may escape recognition, and your own experience teaches you what a very difficult thing it is to observe correctly; to see everything, even in a small field of observation; to proceed methodically, overcome the desire to flit from one object to another; and to exclude what you wish to see, what you were told to look for, from what is actually there.

A training in experimental work also aids you in acquiring the facts of science, in learning your profession, not only because it educates your attention and precision of observation, but especially because it teaches you to question nature, to cross-examine her and yourselves as well. Cultivate, then, Gentlemen, early in your career, the habit of careful observation, and go to nature herself for information, whenever you have an opportunity. It is the pride of this Faculty that she has always insisted upon laboratory work as an essential portion of the preliminary training of her students, and that the chief portion of the final work is taught with a patient before you, at the bedside in the hospitals. But before you reach this later stage, you should have acquired the habit of mind which only the experimental sciences can give you. Now, chemistry, of all your primary work, presents you with the best examples of accurate and discriminative observation and of inference therefrom. It begins with the study of the simplest phenomena, and advances the investigation step by step to a complete and exhaustive analysis of complicated relations. You will never, however, acquire a scientific training from a mere literary acquaintance with chemical facts and theories. In this way you acquire only scientific information, an altogether different thing. You must seek out the information for yourselves, and obtain your knowledge of chemical facts at first hand, by making the best use of your time in the laboratory; and, believe me, if you do not train yourselves to observe and think for yourselves when the objects you have to

examine are comparatively simple, when the complex phenomena of disease in its many forms are presented to you, you will find that you cannot or will not do so, but will be guided by empiricism, or by what the text-book or lecturer says should be seen; and as the student is, so is the practitioner.

Lest you should think I am over-estimating the value of laboratory work in chemistry as a training for the profession of medicine, I will give a few reasons for the faith I have in its power of developing the scientific habit of thought. But first let me offer a word of explanation. I do not in the least under-estimate the training afforded by the other two great primary subjects, anatomy and physiology. They are, when properly studied, of very high educational value; but still, their greatest utility is in the intrinsic value of the subject matter taught. Every fact of these branches has a direct bearing on medicine and surgery. Anatomy, besides, is an excellent training for the memory, and also cultivates the observation, but not the same sort of observation that is developed by experimental science. You learn anatomy in precisely the same way that a cabman learns the streets and principal buildings of the city, by going over the ground again and again, till the relation of nerve, artery, and vein are as familiar to you as that of sidewalk, curbstone, and pavement to the city carter. It is only in this way you can learn anatomy. You must see the relative position of parts, and see them again and again, and from all sides, before you can find your way with certainty about the human body. You would be as much justified in undertaking to drive a London Hansom cab because you had made a study of Baedeker's Guide Book, as you would to enter the field of surgery without years of training in the dissecting room. Observation, and careful observation, is required and developed by anatomy, but not that which involves casual relations. Remember, I am speaking of human anatomy, not of general morphology, nor of comparative anatomy. In human anatomy, observation is not associated with reasoning as to the relation between one fact and another. There is no mental effort, such as tracing an observation back to the grounds of belief in its truth, and forward again to some other observation for discovery or verification. Such processes of thought are required, however, in

physiology; but experiments in this department are made with difficulty. The material and the forces are so complex, and altogether so little is actually known, and so much conjectured, that verification even of the simpler phenomena is difficult and uncertain, and requires much time and elaborate apparatus.

The problems of animal physiology, except those which are of a chemical nature, are far too difficult to serve as a means of scientific training for beginners in medicine, and should really be undertaken only after one has received a good laboratory course in chemistry.

Now, I have no intention of forcing you to select chemistry as the subject affording this most desirable training, by any process of exclusion. On the contrary, I wish to point out clearly, how by work in chemistry you may derive that scientific training which I have tried to show is essential for the successful study and practice of our profession. In the first place, lectures on chemistry, even when illustrated by experiment, are of comparatively small value as a means of training. Lectures are, of course, essential to expound the relations and theories of the science, and to illustrate them by experiments which are not adapted for a teaching laboratory; but it is by practical work only that a student can extract the full benefit obtainable from an experimental science such as chemistry. As Huxley says, "The laboratory is the fore-court of the temple of philosophy, and whosoever has not offered sacrifice and undergone purification there, has little chance of admission into the sanctuary."

One of the first surprises that a student of practical chemistry receives is to find out what a very difficult thing it is to do what you are told to do—to find out what little power mere words have to create a correct picture in the mind. This is due to the fact that to those untutored in scientific observation there seems to be scarcely any connection between words and the things represented by them, except in the case of affairs of every-day life. Now, this power of clearly picturing before your mental vision a sequence of things from a verbal description is a function of the brain called the scientific imagination, a power latent in all minds, and one which, unless developed by a training in scientific work, is likely to remain dormant throughout life.

Develop, then, this mental faculty at every opportunity by endeavouring to create before your mental vision a distinct image of the thing described—a picture of the reality. The power thus acquired will help you in every walk of life.

I have already dwelt on the importance of observation, and correct reasoning on the facts observed. In chemistry a student is brought face to face with nature, and with that field of nature which is capable of very accurate examination. He learns of her by reading and by experiment, and the juxtaposition of the two necessitates thought. He handles and sees the things he reads about, hence he gets definite ideas of things. He performs a certain experiment with a certain result—a result always the same, under the same conditions. The experiment is simple, the conditions easily controlled, and the result sure. This leads him to ask the cause of this inevitable result. What are the relations of the materials entering into the re-action—what the product? He has questioned nature and received a reply; he now questions himself, and the very asking the question causes thought. He creates a theory, or applies one he learns elsewhere, and verifies it by further experiment. The whole process is, necessarily, when properly taught, an alternation of observation and thinking; and he must observe correctly, and think correctly, or his error will certainly find him out. The punishment for error in chemistry is quick and certain, if the student only works with care. It is just in this particular that chemical work affords the most valuable training for a medical student—his little mistakes are never productive of erroneous ideas; because from the very nature of the work he must, sooner or later, detect his own error, when the work has to be done over again. This self inflicted punishment for error occurs again and again in a day's work. The little blows thus inflicted do not discourage, but tend to shape the mind, until constant watchfulness, accuracy of observation, and a determination to reach absolute truth in his work become a habit of life, a part of his very nature.

I might suggest to you, Gentlemen, many means of helping yourselves to cultivate this habit of close attention and accurate deduction; but I will refer to only one, the great value of which experience has shown me is not as fully appreciated by

you as it should be. What I refer to is the habit of carefully recording all your observations when directly in contact with Nature, and also all the chief facts connected with them. Do not trust to your memory, for you may forget an important detail, or, worse, it may return to you a disturted image of the original, an image that has been gradually altered in the process of keeping.

Gentlemen of the first year, begin this practice at once with the objects presented to you in botany and histology. Make rough sketches of some of your dissections, even if you destroy them immediately after. In the chemical laboratory it is absolutely essential to progress to record everything that happens—your reasons for the experiment, and the conclusions deduced from it. Make notes of what you see and do in the physiological laboratory; what you see at the bedsides and at the autopsies. It should be the constant habit, not only of your student life, but after you leave us to engage in practice; and especially remember that these notes are always to be made with the object you describe before you. Now, if you have any doubt regarding the importance of this habit, convince yourselves of its value by trying this experiment on yourself. Make a simple series of re-actions on a substance in the laboratory, or examine carefully a plant or a diseased organ, and afterwards, in the quiet of your own room, sit down and write out what you did and what you saw; and unless you are more than ordinarily gifted, I feel sure a comparison of your notes with the original, next day, will convince you of the fact that to delineate *ad Naturam* your model must be always before you.

Much more might be added regarding the educational value of laboratory work in chemistry, but I will content myself with pointing out, in conclusion, that although other subjects, notably practical physics, are able to afford much the same sort of education, yet in none are the materials so available and of such constant properties, or the apparatus so inexpensive and simple, or the experiments so easily made, and the results so quickly obtained as in chemistry.

The tendency of education to-day, in all branches, from the kindergarten to the university, is more and more towards placing laboratory work und personal observation before tra-

dition and theoretical instruction, and we hope, in the near future, when this wave of progress is felt by those who regulate our medical curriculum, to be able largely to increase the valuable laboratory work in chemistry, and in greater proportion to reduce didactic lectures. This change, however, can be effected only when a higher quality of chemical work is done in medical schools than is now possible. We are bound to our present system of teaching by two forces—the standard fixed by the licensing boards, and the absence of preliminary training in science on the part of the great majority of our matriculants. Higher chemistry should be taught in our medical schools, and much less of it. It is positively cruel to require a medical student in his first year, whose time is so fully required for those things which bear directly on his future work, to go through the drudgery of mastering the elements of chemistry. To obtain a knowledge of chemical nomenclature, and the nature of chemical processes, is not very interesting, and is hard work; and to do even this thoroughly certainly occupies for him one of the two precious years he has at his disposal for the preliminary studies, and in his second year but little time is left for either acquiring a knowledge of medical technical chemistry, or for the training which laboratory work affords him. It is not doing justice to chemistry, nor to the professors who teach it, that this condition of affairs should exist. The student naturally regards chemistry, up to within a few months of the end of his study of it, as something uncanny, made up of barbarous names and very crawly formulæ—as a science presenting all the difficulties of algebra, without its compensating accuracy. It is only too late when he finds out that formulæ and nomenclature are not chemistry, but bear about the same relation to it that the German irregular verbs bear to the poetry of Goethe's Faust.

The remedy for this is obvious—he should be required to know the elements of chemistry before entering medicine. The only chemistry taught in medical schools should be organic and technical medical chemistry, or what the late Dr. Carnelley has called bio-chemistry, which, as the name suggests, is the science which treats of chemistry in relation to life and its attendant phenomena. It treats in brief of the action of dead matter on life, and the reciprocal action of life

on dead matter; and, of course, includes what is usually called physiological, pathological, and sanitary chemistry. All the training which chemistry can afford in the experimental method of inquiry could be given in a chemical laboratory by experiments in medical chemistry, as well as, if not better than by using our present system. In fact, any portion of the field of chemistry does almost equally well as a training ground. In the course given here, the re-actions of the common acids and metals are used for this purpose, not because the information obtained is of value to medical students in particular, nor because that portion of the field of chemistry affords any better subject matter for experiment, but because it is as good a field as any other, and it is a very favourite hunting ground of the Board Examiners.

Apart from laboratory training, what every medical man requires is a clear view of the broad principles of chemistry, that he may intelligently follow advances in medicine made by chemical research, and a limited acquaintance only with the facts of chemistry. A knowledge of two classes of facts is required: first, those which are essential to a perfect understanding of the principles of the science, very few in number, and second, those which bear directly on his profession. It is the first class of facts that should be partially acquired before entering medicine, in order to give both professor and pupil time to dwell on the more congenial, important, and interesting facts that bear directly on the principles of the healing art.

Apart from its value as a means of training the student in those habits of thought especially useful to him in his profession, chemistry has another claim to a high position in a modern medical education—a claim based on what she has shown herself able to do in aiding physiology and pathology in the solution of the fundamental problems of medicine.

Time will not permit me to discuss even the more important advances recently made, and a mere enumeration of the results obtained would be tedious in the extreme. I shall have said enough on this subject when I remind you that although the great powers of the chemical and physical sciences to aid medicine have only recently been appreciated, these sciences, and especially chemistry proper, have shown

the existence of fields of research of unimagined fertility. The whole of preventative medicine, the medicine of the next century, is becoming more and more a chemical question.

Bio-chemistry has taken up the thread of research, where it has been lost to the highest powers of the microscope. There is no field of science which during the past few years has attracted the same public attention as that which is now being searched over by bio-chemistry and pathology. As I have hinted elsewhere, recent synthetical work has about completed the rout of those who believe that the higher products of life, the more complex of the constituents of plants and animals cannot be fabricated from their elements by artificial means.

The recent synthesis of grape sugar by Fischer and his pupils, and the synthesis from their proximate principles of too proteic substances by Schutzenberger, exhibiting the chemical and physical properties of peptone, show that the chemist can construct even the most characteristic compounds and the highest products of life. The construction of a starch granule or a muscle fibre, however, will always necessarily remain beyond his powers. It is as absurd as to expect the chemist to synthesize organized tissue as to expect that a workman who could combine copper and zinc to make brass could construct a modern chronometer. But the problem of synthesizing the different materials of which the living cell is composed is to the chemist of to-day a far easier problem than the construction of a telephone would have been to the electricians of the time of Volta or Ampére.

The greatest value of the contributions made by chemistry to our knowledge of disease is not so much the actual benefits they have conferred on medicine as the clear propheey they utter of greater blessings to come. The study of medicine is carried on amidst the deepest mysteries of nature. We have been created with minds to enjoy, and reason to aid us in unfolding such mysteries. Nature calls us to study her, and all our better feelings urge us in the same direction; and, Gentlemen, I shall have missed the object of this lecture if I have failed to impress you to some extent not only with the necessity of studying Nature, but of obtaining your knowledge

of her at first hand. Agassiz has said, "If you study Nature in books, when you go out of doors you cannot find her;" so if you study disease only in lectures and text-books, when you go to the bedside you will not recognize it. Remember that the physician is a servant of Nature, never her master, and he only will rise in the service who can follow close in her footsteps, and successfully aid her in her struggle with disease.

RARE FORMS OF GOUT AND RHEUMATISM.*

By Sir James Grant, Ottawa.

Mr. President and Gentlemen,—This I consider "a red letter day" in my professional life's work, and more particularly from the very fact of having received so generous an invitation, through the Secretary of your Association, to read a paper on this auspicious occasion. We Canadians, as a whole, delight in noting the advance of our American neighbours, in almost every line of thought, in medical and surgical science. The assembled wisdom of this Association, from the great State of New York, almost a kingdom in itself, is only an index to the intellectual power to-day at work in almost every State of your prosperous Republic. How gratifying it must be to con over such names as Rush, Mott, McDowell, Sims, Gross, Pancost, Flint, Sayer, Thomas, Emmett, Dacosta, Bowditch, Godell, Pepper, Wier-Mitchell, Bull, McBurney, and a host of others equally great, but too numerous to mention, who by their skill and ability have added lustre to the name of America.

To-day I propose offering some observations on rare forms of gout and rheumatism—conditions not by any means frequent as to their occurrence.

Case I.—*Pneumonic Gout.*—The following brief notes are of a pneumonic form of gout, associated with slight hepatic complications. H. V., aged 78 years, stout habit of body, not plethoric, but generally vigourous, and accustomed to long hours of arduous official duty. Cannot trace gout to his ancestors, and always lived well and liberally. February 10th, 1893,

* Read in Mott Memorial Hall, New York, Oct. 11th, 1893, before the Medical Association of the State of New York.

suddenly seized with acute pain in the right side of chest, opposite the middle lobe of lung, with general malaise and rather severe cough; no excessive flushes in the cheeks; the breathing was somewhat hurried, about 30 per minute, temperature 101½° to 103°, and the pulse for several days ranged from 100 to 114. The cough after the first day was associated with the expectoration of a thick, tenacious mucus, rusty-coloured, not uniform, however, in its character, but somewhat patchy as to the distribution of the blood through the tough sputum. The left side moved more freely during the respiratory process than the right, and over and about the seat of pain, in right side, there was an evident area of dulness on percussion, and yet the breath sounds were heard with a degree of almost unexpected clearness, with an occasional slight mucous rale. The posterior aspect of the right lung held its ground, kept moderately clear, and in fact the pulmonic trouble was chiefly confined to the lateral and anterior aspect, middle lobe, right lung. Throughout the sputa presented an unusually tenacious character, and up to the 21st of February exhibited a patchy, rusty and most peculiar appearance, after which date it became clear, but retained the sticky, glutinous peculiarity up to the 27th of February, when it subsided. During the entire illness, the pain in the side was not of the usual pleuritic type, but more of the burning, throbbing, aching and piercing pain, and out of all proportion to the ordinary defined pulmonic condition. From his well-known gouty diathesis, I was led to believe the attack was really one gouty in character, and informed the friends that metastasis to the feet, of the lung condition, was not unlikely. On the 22nd both feet became very painful and swollen, a condition of system (as to his feet) he had experienced several times during the past ten years. Almost immediately the lung improved in every particular, which quite settled the point as to the gouty character of this attack in the lung tissue as a primary development. Throughout, the usual course of treatment was adopted, with the free use of elixir salicylate of lithia, and lithia water as well. During the entire attack, I saw no special indications of hepatic trouble, beyond a degree

of uneasiness about the liver generally. Four years ago he had a well defined attack of jaundice, unattended by any anatomical lesion to account for its development; it was of short duration, and passed off quickly.

Case II.—*Perityphlitic Gout.*—The same individual whose case I have just cited was the subject of the following. Date, September 10th, 1892, aged 77 years. Almost up to the present attack had been enjoying apparently good health; retired to bed this same evening, and in the middle of the night was suddenly seized with a severe pain in and about the region of the appendix vermiformis, attended with a sensation of throbbing, together with a degree of tension in this particular region, and which radiated more or less over the entire abdominal walls; considerable heat of skin, with a degree of restlessness, general febrile disturbance, and a sense of uneasiness about the stomach, with occasional vomiting. Temperature, 102°; pulse, 116, full and regular. The pain and sensibility of the abdominal wall chiefly over the ileo-cæcal region. The bowels were constipated, and the tongue moderately coated with a moist white fur, pointing to evident gastric derangement, for a few days. Knowing the gouty history of this patient for some years, although not of a hereditary type, I expected from the character of the pain—boring and growing, such as I had observed more than once in his feet—that it might prove a case of gout, of which there were well defined results, such as tissue thickening about the tarsus and heels of both feet, owing to the deposition of gouty material during past years. The fingers of both hands showed also evidences of disturbed chemistry in the system, resulting in gouty thickening in and about various joints. The bowels, though at once relieved by an enema, still continued painful. Linseed poultices were freely applied, sprinkled with chloroform liniment, and tablets of sulphate of morphia freely administered, to relieve the intense suffering, which was so acute as to almost prohibit the most moderate bed clothing. Salicylate of lithia and lithia water, were freely given, so soon as admissible, and the bowels were freely washed out with warm water, which almost played the part of an internal

poultice. The pulse and temperature continued high for fully five days, when both gradually lessened in intensity, and about the sixth day pain was complained of in both feet, particularly about the toes, but not by any means as severe as in the marked metastasis after the attack of pneumonic gout.

At this date there was a marked amelioration in the entire character of the symptoms ; the abdomen became more flaccid and much less painful on pressure, and the decidedly caky area in the ileo-cæcal region gradually parted with its suspicious indications. McBurney's appendix point was for days an interesting and instructive look-out, until rendered less attractive by the evident outcome of metastatic, gouty action. Undoubtedly there was well marked and circumscribed induration in the ileo-cæcal area. The precise condition or character of this induration was difficult to define, and yet the rapid change consequent on metastatic action pointed to gouty deposition, in or about the region of the appendix, so peculiar and transitory in its manifestations. At the end of three weeks an excellent recovery was made, and since that date there has been no recurrence of intestinal trouble.

Case III.—*Rheumatic Perityphlitis.*—Miss T., aged 12 years, vigourous and robust habit of body, conformation regular, and organs, as a whole, normal, prior to present attack ; of a highly nervous temperament, but usually enjoyed excellent health and spirits. June 1st, 1893, complained of pain and a sense of uneasiness in her feet, with a general feeling of systemic irritability. June 3rd, was suddenly seized with severe pain in the bowels, but more particularly in and about the ileo-cæcal region, where tenderness on pressure was most marked. Fully two days prior to June 1st, a sense of heat and feverishness was experienced, and prior to being under my charge. Temperature 102½°, and pulse 120. The bowels were at once washed out by a warm water enema, which afforded much relief. Hot linseed poultices applied, and placed on milk diet and an aconite mixture. From June 2nd to 8th the pain experienced over the bowels was very considerable, and the tenderness so severe that coughing or stretching of the legs

increased the pain in a most marked manner. Turpentine enemata also afforded considerable relief. June 4th, there was a decided hardness on moderate pressure over the ileo-cæcal region, which gave one the impression that some tissue change had taken place, and the fact that rigidity in the abdominal walls was more marked on the affected side than on the other led me to view the condition with a degree of suspicion, although the actual position of hardness was a little lower down than McBurney's point. For fully three days the temperature was over 102°, on which account suppuration would not be an unlikely result. June 7th, the right shoulder, elbow and wrist joints exhibited well defined symptoms of acute articular rheumatism, these parts being painful on pressure, swollen, and moved with difficulty. Just in proportion as these almost outside rheumatic conditions developed, the abdominal symptoms actually lessened in intensity, and on the 10th the entire features of the case evidenced a marked change for the better, no relapse being experienced whatever. The question very naturally arises, What was the attack, and how developed? True, the recognition of appendicitis is not all that is needed. In this case, almost from the first, there was localized pain, associated with tenderness over the region of the right iliac fossa and ascending colon, with well defined swelling, and for days the pain was so severe that it was increased at once by coughing or deep inspiration, and the almost constant desire was to elevate both knees to relieve the suffering. For days, also, there was entire inability to take nourishment, owing to attacks of vomiting. The bowels were frequently injected with warm linseed tea, which afforded a degree of nourishment, as well as clearing the contents of the canal. In this case I concluded there was lodgment of undigested material in the cæcum, and most likely induced by inability to assimilate the food, owing to deflected nerve power from over-mental strain, as is frequently the case in our schools and universities at the present day. In the ordinary avocations of life, we can trace the operation of like results, interfering seriously with the very principles of sanguinification and blood change.

The next question is, How is rheumatism associated with perityphlitis? True, the essential cause of rheumatism is still a doubted point. Errors in diet, as an etiological factor, have much to do with the production of both gout and rheumatism, and such strengthens the metabolic theory that rheumatism depends on a morbific material produced within the system, the result of defective processes of assimilation. True, Prout, Latham, Richardson, Mitchell and Dr. William H. Porter, of New York, have thrown much light on the subject of rheumatism, and certainly the present case points to rheumatic complication as the outcome of defective assimilation, an important factor in its production. Thus, the chemical laboratory of the human system becomes disturbed, resulting in false products, enabling us to establish a connecting link between even perityphlitis and rheumatism. In the structure of the intestinal walls, there is undoubtedly a large amount of fibrous tissue, just as in the fascia and tendons of the joints, and it is reasonable to suppose that these structures should be influenced in the same manner; and assuming that the case under consideration was even quasi-rheumatic in its character, it affords one more illustration of the importance of giving due consideration to the line of action embraced in medical or surgical treatment under like circumstances.

In a recent paper by A. Haig, M.A., M.D., Metropolitan Hospital, London, on Gout of the Intestines, he states "that "his chemical and experimental experience has led him to "believe that a very large number of cases of colic, enteralgia "and enteritis, and cases which are clinically indistinguishable "from typhilitis, are neither more nor less than a gout of the "walls of the intestinal tube, or a rheumatism," as has just been defined.

In Canada, as a whole, gout is almost an unknown quantity, except in occasional cases of an hereditary type. Our people, in the midst of life's pursuits, live in a moderate way, which contributes greatly to the promotion of health. On the other hand, rheumatism is of frequent occurrence. The coldness of our winter climate, the occasional absence of flannel,

and excessive exposure, contribute to develop rheumatism. After noting the life history of many thousands of our "lumbermen," I have been amazed at the few attacked by rheumatism. Bread, pork and strong tea constitute their chief articles of diet, and the general experience is, that the tea enables them to digest the pork with remarkable comfort; and certainly, after a hard winter's work, they return home well nourished and healthy, in every particular. These facts point to the importance of simplicity as to diet. Our progenitors frequently attained the age of "three score and ten," nourished by grain, ground between two stones. As a rule, the people of the present generation live too fast, resulting in mental strain and the absence of simplicity. With greater attention to diet, simple in its character, in conformity with the normal functions of the alimentary canal, and the avoidance of alcoholic beverages, as a whole, I feel confident, perityphlitic and appendix troubles, even unconnected with gout and rheumatism, would become less troublesome factors in the line of disease. To avert various irregularities in the alimentary canal, which if neglected will undoubtedly lead to trouble in time, is as important as subsequent treatment when the stage is passed, in which the efforts of nature are powerless to afford relief. What active agent in the system is more frequently tampered with than gastric juice, which requires a normal temperature to perform its part in the economy? Ice water at the commencement and ice cream at the end of a meal, may be fashionable, but certainly not life preserving. Unassimilated food makes its way to parts not designed by nature to transform and absorb. As the result, how frequently, on percussion, we find extensive portions of bowel ballooned by abnormal efforts to accomplish the digestive process? Such conditions result from irregularities in living. No portion of the alimentary canal is more liable to diseased manifestations than in and about the appendix, which is a species of *Loop Line* to the digestive tract.

Insurance associations cannot note too carefully the probabilities of life in this connection. There is still much to be accomplished, and let our medical education be so directed as to bring about simplicity in living as near as possible to the normal functions of our organs, and our generation will be greatly benefited.

SOME UNUSUAL CONDITIONS MET WITH IN HERNIA OPERATIONS.*

By James Bell, M.D.,
Surgeon to the Montreal General Hospital; Assistant Professor of Surgery and Clinical Surgery McGill University.

As navigators by common consent and for mutual benefit map out reefs, shoals and other impediments or dangers to navigation when they are discovered, so, too, physicians and surgeons for similar reasons have adopted the method of recording in the literature of the profession, such rare and unusual conditions, met with from time to time, as may add to the sum of scientific knowledge and contribute to a better understanding of its separate departments, as well as serve as guides to future practitioners. It is with this object that I venture to call the attention of the Association very briefly to the following cases:

Case I.—*Right Femoral Hernia with Sloughing Sac and Contents Simulating Large Intestine.*—J. W., a farmer's wife, aged 55, was admitted to the Montreal General Hospital on the night of the 24th of March, 1890, complaining of swelling in right groin, which was causing severe constitutional disturbance. The patient was a large, fleshy woman, the mother of eleven children, and accustomed to hard work. Her intelligence was of a low order, and a clear history of her illness was obtained with difficulty. The family history was not remarkable and had no bearing on the present illness, which began ten days before admission (March 14th, 1890), when she discovered a lump in the groin as large as a "doubled up fist." This lump was painful and tense and gradually increased in size and became red and swollen and very tender, so that on the 20th of March, four days before admission, she consulted a doctor, who diagnosed hernia and partially reduced it, giving her marked relief. The mass did not entirely disappear and the swelling continued to increase till she came to the hospital. During all this time the bowels had been moved regularly and there had been no vomiting or other symptoms of strangulation beyond the acute local symptoms described. On admission the patient was in great pain and was unable to stand on account of the painful mass in the groin. Tempera-

* Read before the Canadian Medical Association, September 21, 1893.

ture, 102° F.; pulse, 100; tongue coated. The swelling was as large as an adult's head and occupied the region of the right groin and Scarpa's space. It was of a livid red color, hard and indurated at the base, and fluctuating over the convexity—in fact, evidently a pointing abscess. On being questioned patient admitted that she had had a lump as large as a hen's egg in the groin for the past nine years, and that she had suffered from habitual constipation all her life. On the 25th of March, the patient having been etherized and the parts cleansed and prepared, an incision was made over the prominent pointing part of the tumour. About a pint of fœtid sanious pus escaped and exposed a large sloughy mass at the base. On examination this was found to be omentum, which was removed by drawing it down and cutting through the healthy tissue, which was first ligatured in sections. In the centre of this, however, was found a tubular cavity exactly resembling the interior of the large intestine, although there was no sign of fœeal discharge or odour from it. This tubular prolongation extended up into the abdomen as far as the finger could reach, and so closely resembled intestine that it was stitched into the skin wound. The distal portion which had been removed was a mass of slough and threw no light upon the condition. To the outer side of the mass above referred to was found the appendix vermiformis strangulated and sloughy from about three-quarters of an inch below the cœcum. It was ligatured and removed and the cœcum returned to the abdominal cavity. The wound cavity was was packed with iodoform gauze and a sublimated gauze dressing applied. All the symptoms at once improved and the bowels moved naturally within twenty-four hours. The wound was next dressed on the fourth day and all the sutures removed, as there was no longer any question of the integrity of the bowels. Recovery was uninterrupted and the patient was discharged on the 12th of May with the wound perfectly healed.

Case II.—*Congenital Oblique Hernia Attached to the Bottom of the Tunica Vaginalis Testis by a Hydatidiform Prolongation from the Omentum.*—F. L., aged 32, engine driver consulted me in the summer of 1889 about a right inguinal hernia, with a view to having an operation performed for radical cure.

The patient, a healthy, vigorous and intelligent man, had suffered for about a year and a half from the hernia, and had tried to retain it in position with trusses of a great many varieties, but had completely failed to keep it reduced. It was small and easily reduced, but in spite of all his efforts it would soon come down again, producing a sickening feeling until it was again reduced. On examination I found the canal of moderate size, and considered the case an excellent one for treatment by truss, and so advised the patient. I suggested a new form of truss and saw it properly applied, and also took some trouble to assure myself that the patient understood the principles involved in this form of treatment. He returned to me, however. from time to time, protesting that it was useless for him to try to go on with his work unless his hernia could be cured by operation, and finally, on the 3rd of January, 1890, I had him admitted to the hospital, and on the 11th of the same month operated by McEwen's method. The hernia proved to be omental and congenital, and the unusual feature which explained the impossibility of retaining it by a truss proved to be a hydatidiform cyst (cyst of Morgagni) growing from the omentum and adherent to the bottom of the sac of the tunica vaginalis testis. This was just long enough to allow the hernial contents to escape within the internal ring and yet short enough to maintain a constant traction upon this portion of the omentum and bring it down in spite of any form of truss. The omental protrusion was ligatured off and removed with the cyst and the tubular prolongation of the tunica vaginalis dissected away from the spermatic cord and drawn up within the internal ring after McEwen's method of dealing with the sac. The conjoined tendon was then brought over and sutured to Poupart's ligament. The patient made an excellent and uninterrupted recovery, and resumed and has continued his work as an engine driver ever since, wearing no truss or other form of support. When last seen, 21 months after operation, he declared himself perfectly well and capable of any exertion. This condition must be extremely rare, as I have failed, after a fairly exhaustive search into the literature of hernia, to find any similar case reported. (I have recently seen a case operated upon by a colleague in which the omentum was firmly adherent to the bottom of the sac.)

Case III.—*Congenital Cæcal Hernia.*—R. E., aged three years, was admitted to hospital September 8th, 1891, with right scrotal hernia, which was said to have existed from birth and to have been irreducible. Operation for radical cure on the 3rd of November. On laying open the sac (which was identical with the sac of the tunica vaginalis testis) a thin, semi-transparent, diaphragm-like protrusion of peritoneum, through which the hernial contents could be recognized as the cæcum and ileum and which was adherent to the spermatic cord and the borders of the ring was discovered. It was found to be impossible to reduce the hernia, even after slitting up the inguinal canal, until the peritoneum was opened and retraction made upon the ileum, when it readily slipped back into its place. The superfluous tissues of the neck of the sac were dissected away and the remainder sutured down around the cord, the conjoined tendon brought over and sutured to Poupart's ligament, and the canal closed by suture. Recovery was uninterrupted, and the patient when last seen (September 15th last) was in perfect health, with no sign of return of the hernia.

Case IV.—*Hernia of Tubercular Ovary and Tube through Inguinal Canal in Female Infant.*—S. G., aged 12 months, a pale, feverish female child, was admitted to hospital December 20th, 1892, with a tumour in the right groin, which was thought to be an irreducible inguinal hernia. She had contracted whooping cough four months previously and one month afterwards the hernia appeared. Several unsuccessful attempts had been made to reduce it under chloroform, and the tumour had trebled in size from the time of its first appearance. It was solid to the feel, freely moveable, distinctly pediculated, and could be traced into the inguinal canal. As far as could be made out it was at most very slightly sensitive and gave no impulse when the child cried. The bowels moved regularly, but the child was poorly nourished and fed badly. There was marked tubercular history in the mother's family. Omental hernia was diagnosed and operation proceeded with December 21st. On exposing the mass it could be distinctly traced through the inguinal canal into the abdomen and the sac was adherent throughout. It was separated without much trouble and exposed a mass as large

as a small pigeon's egg and covered with a glistening membrane. It was clearly not omentum, and for the moment I was nonplussed. It looked like a swollen testicle. I incised it and found that it gave no gross character which would suffice for a diagnosis, but that it was undergoing cystic degeneration. The pedicle was well drawn out and ligatured and the mass removed. The canal was closed by suturing the conjoined tendon to Poupart's ligament, and the patient made a rapid and uneventful recovery.

Prof. Adami, who kindly took the specimen in hand, demonstrated that it consisted of an ovary and fallopian tube in an active condition of tubercular disease, giant cells and tubercle bacilli being both found in abundance.

Case V.—*Suppurative Inflammation of Hernial Sac Simulating Strangulation.*—A. T., aged 17, a strong, rugged looking young man, was brought to the hospital in the ambulance early in the morning of February 21st, 1893, suffering from symptoms of strangulated hernia. On the afternoon of the 19th while skating he had had a fall on the ice, which was immediately followed by severe pain in the lower part of the abdomen, which soon settled itself definitely in the neighbourhood of the left inguinal canal. He was obliged to go home and go to bed, and a physician was called who discovered a lump about as large as a hen's egg in the painful region and diagnosed a hernia. The patient himself had not noticed the lump and asserted positively that there never was any enlargement there prior to the fall above mentioned. Prolonged but ineffectual efforts at reduction were made that evening and next day, and late the next night Dr. Williams saw him and sent him to the hospital. On admission the tumour was as large as a small fist, discoloured, tense and tender. The abdomen was distended and tender in lower third. Temperature, 100; pulse, 120; patient very restless and complaining of great pain, although he had had considerable quantities of morphia. There was constipation, but no vomiting. Operation was performed at eight o'clock in the morning. Dissecting down upon the tumour, the sac was found to be greatly thickened and œdematous. On opening it about half an ounce of sero-pus escaped and it was seen to be occluded above. Another incision was then made into the sac

above the occlusion and a loop of small intestine which was scarcely constricted slipped back into the abdomen. The sac was ligatured off well within the internal ring and the conjoined tendon drawn over and sutured to Poupart's ligament. The patient made an uninterrupted recovery and was discharged on the 21st of March, exactly one month after admission. In spite of the history I think there can be no doubt but that this patient had suffered from hernia before, the most probable explanation being that he had outgrown a hernia of childhood, the sac of which had become obliterated at the external ring, and that the strain of the fall upon the ice protruded a portion of the abdominal contents into the neck of the sac, pushing it further down. The manipulations carried out for its reduction set up an inflammation in it, which rapidly went on to suppuration, possibly through the agency of the amaeba coli.

PARALYSIS FOLLOWING APPLICATION OF ESMARCH'S BANDAGE.

By W. C. Crocket, M.D., L.R.C.P. (Lond.)

The case of paralysis of the arm following the application of an Esmarch's bandage, reported to the Montreal Medico-Chirurgical Society by Dr. Bell, and subsequently published in the Montreal Medical Journal, recalls to my mind a somewhat similar and, I think, remarkable case which occurred in my practice a few years ago. On July 10th, 1887, I operated on a young man about 21 years of age for traumatic aneurism of the right ulnar artery. An ordinary Esmarch's bandage was applied a little below the middle of the humerus. The whole operation lasted about twenty or thirty minutes. After the effects of the anæsthetic had passed off, the patient complained of numbness in his hand. I attached little importance to this, till I removed the dressings, a few days later. On taking off the splint which I had applied to support the hand, I found the patient had complete wrist-drop. The Esmarch, which was applied with no more force than usual—not a sign of blistering being present when the bandage was removed,—had evidently compressed the musculo-spiral nerve, as it had also

the ulnar, as the parts supplied by that nerve were markedly affected, both as regards sensation and motion—so much so that I feared for a time that I had in some way injured it during the operation. Under the use of electricity, the wrist-drop gradually improved, though it was many months before the patient had complete use of his hand. The most interesting feature of the case, however, presented itself about three months after the operation. The young man one day went partridge shooting, and as he was unable, on account of the wrist-drop, to carry his gun in his right hand, he had slung it by a flat strap over the left arm, the strap passing in a spiral direction over the humerus. On returning home in the evening, he hastily set out for my office, which he entered in a state of considerable anxiety, as he stated that he had lost the use of his left hand also. I found upon examination that he had complete wrist-drop of his left arm, caused undoubtedly by the pressure of the strap with which he had slung his gun. The parts supplied by the other nerves of the arm were not affected. Had the second occurrence taken place shortly before, or before the wrist-drop in the right arm had begun to improve, the patient would have been unable to feed himself, so complete was the paralysis at the wrists, and, even as it was, the young man's condition was most pitiable. Electricity was applied, as in the case of the right arm, with complete restoration of power over the wrist, both arms regaining their power about the same time.

I found upon inquiring into the family history that a maternal aunt, who was a tailoress, had to give up her employment, as the use of the scissors had crippled and weakened her wrist and hand; that a maternal uncle, who was a painter, was compelled to change his occupation on account of double wrist-drop, caused by lead-poisoning; while a brother of the patient informed me that he was unable to stand if he sat for a few minutes with the hollow of one knee resting on the front of the other.

This case, which appears to me to be altogether unique, illustrates the necessity, as Dr. Bell has stated, of the careful application of the Esmarch bandage, as it does, too, the good effects resulting from the judicious use of electricity in these fortunately rare cases.

Fredericton, N.B., Oct. 26th, 1893.

Correspondence.

To the Editors of The Montreal Medical Journal.

Dear Sirs,—A number of months ago, I met the following case, which I send to you for publication, on account of its novelty:—I was consulted by a mother in regard to trouble around the umbilicus of her child. The history of the case is very meagre. The child, apparently a healthy infant of four months, had an enlargement of the umbilicus, which, the mother said, had only been noticed a few days before. The impression which one received from first observation was that of a serous membrane drawn tightly over a dark object, which came to light through a very minute opening in this seemingly serous membrane. The thought of an umbilical hernia came into one's mind, but on close observation, even with the naked eye, the dark object which appeared from the minute opening in the summit of this dome-shaped elevation could be noticed to move. On closer observation with a magnifying glass, the head of a grub could be distinctly defined. After enlarging the opening with the aid of a pair of dressing forceps, the object was easily extracted. To my surprise and the great astonishment of the parents, a plump and active horse-bot—$\frac{3}{4}$ in. long and $\frac{3}{8}$ in. broad—was brought to light. The seemingly serous membrane was the stretched skin surrounding the umbilicus. The grub being really encysted, I washed out the cavity with an antiseptic solution, dressed, and no more trouble was given.

How this peculiar object came in this place is only solved by the aid of theory, the most plausible one to my mind being: While the umbilicus was still in a raw condition, the child's clothing, which probably had been airing out of doors, had received an egg of this type, and, being replaced, soon found a field on which to thrive.

Harry H. McNally, M.D.

Millville, N.B., Oct. 25th, 1893.

Reviews and Notices of Books.

Transactions of the Association of American Physicians. Eighth session. Held at Washington, D.C., May 30th, 31st and June 1st, 1893. Volume VIII. I. Minis Hays, M.D., Recorder, Philadelphia.

This volume contains the following articles:—

On the Course and Treatment of Certain Uræmic Symptoms. By Beverley Robinson, M.D., of New York.

The Reaction of Ether with Urine. By Andrew H. Smith, H.D., Physician to the Presbyterian Hospital; Professor of Clinical Medicine in the Post-Graduate Medical School, New York.

Probable Origin and Early Symptoms of Certain Chronic Diseases of the Kidneys. By Charles S. Bond, M.S., M.D., of Richmond, Indiana.

A Study of Addison's Disease and of the Adrenals. By W. Gilman Thompson, M.D., of New York.

Two Cases of Cystin Calculus. By James Tyson, M.D., of Philadelphia.

On a Simple Continued Fever. By G. Baumgarten, M.D., Professor of the Practice of Medicine, St. Louis Medical College, Washington University, St. Louis.

Creosote in Tuberculosis Pulmonum. By J. T. Whittaker, M.D., of Cincinnati.

The Intestinal Origin of Chlorosis. By F. Forchheimer, M.D., of Cincinnati.

Note on Use of Quinine in Chorea. By H. C. Wood, M.D., of Philadelphia.

Eye Tuberculosis and Anti-Tubercular Inoculation in the Rabbit. By E. L. Trudeau, M.D., of Saranac Lake, New York.

Some Problems in the Etiology and Pathology of Texas Cattle Fever, and their bearing on the Comparative Study of Protozoan Diseases. By Theobald Smith, M.D., Chief of the Division of Animal Pathology of the Bureau of Animal Industry, U. S. Department of Agriculture.

The Bacillus Pyocyaneus Pericarditidis. By Harold C. Ernst, M.D., of Jamaica Plain, Mass.

The Results of Inoculations of Milch Cows with Cultures of the Bacillus Diphtheriæ. By A. C. Abbott, M.D., First Assist-

ant in the Laboratory of Hygiene, University of Pennsylvania.

Gonorrhœal Myocarditis. By W. T. Councilman, M.D., Shattuck Professor of Pathological Anatomy, Harvard Medical School.

Acute Follicular Tonsillitis. By Starling Loving, M.D., of Columbus, Ohio.

Sarcoma of the Right Lung Diagnosticated During Life by the Use of the Microscope; Secondary to Sarcoma of the Testicle which had been Removed Four Years Previously. By D. W. Prentiss, M.D., of Washington, D C.

Pulsating Pleural Effusion. By J. C. Wilson. M.D., Professor of the Practice of Medicine and of Clinical Medicine in the Jefferson Medical College, Philadelphia.

Subphrenic Abscess, with Special Reference to Those Cases which Simulate Pyo-Pneumothorax. By A. Lawrence Mason, M.D., Associate Professor of Clinical Medicine in Harvard University.

On Subphrenic Abscess. By S. J. Meltzer, M.D., of New York.

Cases of Subphrenic Abscess. By William Osler, M.D., of Baltimore.

The Detection and Significance of Proteids in the Urine, By Charles W. Purdy, M.D., of Chicago.

Coffee-Drinking as a Frequent Cause of Disease. By Norman Bridge, A.M., M.D., Professor of Clinical Medicine, etc., Rush Medical College, Chicago.

On the Parasitic Nature of Cancer. By Heneage Gibbes, M.D., Professor of Pathology in the University of Michigan.

The Importance of Uterine Displacements in the Production of Vomiting During the Early Stages of Pregnancy. By George M. Garland, M.D., of Boston.

Two Cases of Diaphragmatic Hernia. By James Tyson, M.D., of Philadelphia.

Myxœdema: the Functions of the Thyroid Gland, and the Present Method of Treatment of Myxœdema. By Francis P. Kinnicutt, M.D., Physician to St. Luke's Hospital and to the Presbyterian Hospital, New York.

Cases of Myxœdema and Acromegalia Treated with Benefit by Sheep's Thyroids. By James J. Putnam, M.D., of Boston.

A Contribution to the Subject of Myxœdema, with the Report of Three Cases Treated Successfully by Thyroid Extract. By M. Allen Starr, M.D., Ph.D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, New York.

A Case of Myxœdema. By W. Gilman Thompson, M.D., of New York.

On Sporadic Cretinism in America. By William Osler, M.D., Professor of Medicine in the Johns Hopkins University and Physician-in-Chief to the Johns Hopkins University.

Text Book of Ophthalmology. By W. F. Norris, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, and Charles A. Oliver, A.M., M.D., one of the Surgeons to the Wills Eye Hospital. Illustrated with 5 coloured plates and 357 wood-cuts. 627 pages. Philadelphia: Lea Brothers & Co. 1893.

By this book another has been added to the list of first-class works on ophthalmology. With volumes like Fuchs', Berry's and the present work, the student of ophthalmology need no longer complain of the lack of really trustworthy, comprehensive text books. The treatise under consideration is elaborate and in some details exhaustive. Dr. Oliver contributes the section dealing with embryology, anatomy and optics. This occupies nearly half the book, and is entered into in detail. The chapter on the correction of errors of refraction shows the author's thoroughness in doing work. As a mydriatic he prefers atropin to all others, and in the shadow test employs the plane mirror. The third chapter deals with the physiology of vision, and here is supplied a good, clear diagram illustrating the relations of the visual apparatus to the cerebral cortices. The authors, although not believing entirely with Stevens in reflex epilepsy and chorea being due alone to eye strain, yet attach some weight to the graduated tenotomies in heterophoria advised by Stevens; the great drawback to the latter being the uncertain result and necessity for repetition. Dr. Norris writes the section dealing with the diseases of the eye. This is copiously illustrated and clearly written, although, by the by, nearly all the illustrations are borrowed; doubtless it is far better to have good

borrowed ones than inferior original, e.g., the gamma of the iris, No. 221, p. 358. The chapter on muscle troubles is well throughout. Indeed, the whole work is so well done that it is difficult to detect flaws. The book is well gotten up, clearly printed, and paper good.

Manual of Diseases of the Ear. By GEORGE P. FIELD, M.R.C.S., Aural Surgeon to St. Mary's Hospital. Fourth edition; 371 pages; illustrated. Lea Brothers & Co., Philadelphia. 1893.

This valuable little work on the diseases of the ear appears in its fourth edition. The work of the previous editions is brought well up to date. The strong point in the book is the number of illustrative cases appended to the descriptions of the various diseases, which are simply invaluable to the student in impressing the subject. For instance, in treating of osseous tumours of the meatus, twenty five cases are mentioned. There is an extremely useful chapter on pain as a symptom in ear disease, full of valuable points. As we would expect, there is a detailed account of the action of pilocarpine in labyrinthine disease, a subject in connection with which the author has obtained such fame. The book is fairly illustrated, and, on account of its succinctness and clearness, is a valuable guide for physicians and students.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F.R.S., F.R.C.S., Lecturer on Anatomy at St. George's Hospital Medical School. The Drawings by H. V. CARTER, M.D., late Demonstrator of Anatomy at St. George's Hospital, with additional Drawings in later editions. A new American from the thirteenth English edition. Edited by T. PICKERING PICK, Surgeon to and Lecturer on Surgery at St. George's Hospital; Senior Surgeon, Victoria Hospital for Children; Member of the Court of Examiners, Royal College of Surgeons of England. Philadelphia: Lea Brothers & Co. 1893.

The thirteenth edition of Gray's Anatomy is an improvement on previous editions, the text being altered in places to give greater force and clearness to the descriptions, and the illustrations being improved and some added. This work has always held a high place as a text book, and the improvements

have made it more than ever the most useful work on systematic anatomy for students. The work comes to hand in two editions, one with coloured plates and the other with the illustrations in black and white.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and subjects. Vol. XIV. Sutures—Universally. Washington: Government Printing Office. 1893.

We have received the fourteenth volume of this work, containing a list of the books and pamphlets, with their authors, in the Library of the Surgeon-General's Office, United States Army. This volume begins with the word "sutures," and ends at the word "universally." It is an exceedingly useful work in looking up the bibliography of any subject.

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Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, April 28th, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Rupture of the Pulmonary Artery—Dr. WYATT JOHNSTON exhibited the specimen which, he said, illustrated a very frequent mode of sudden death. The patient, an elderly man, was overtaken suddenly on the street by a hæmorrhage, and when seen by a physician was practically in a dying condition. He was taken to the General Hospital, where he died. Owing to certain features of the case, especially owing to the body not being identified, an autopsy was ordered by the coroner, to make sure of the cause of death.

A quantity of blood was found about the mouth and fauces, and a large clot lay at the back of the pharynx. Blood was found in considerable quantities throughout the bronchial tubes, and also in the finer bronchi. In the right lung there were spots of hæmorrhage into the lung, small pulmonary apoplexies, apparently due to the rupture of little blood vessels, caused by extraordinary respiratory efforts. The cause of death was easily found. At the apex of the left lung, which was adherent to the pleura, was found a cavity as large as a goose egg. Springing from the wall of the cavity could be seen a small aneurysmal sac, at one point of which was seen a rupture which was partly closed by a blood clot. An interesting feature was the state of the lining membrane of the cavity, which was covered with a grayish, ragged material, which upon removal left a smooth membrane behind, evidently a distinctly pyogenic membrane. The fibrinous flocculi on the surface were evidently the results of previous hæmorrhages, for as the blood exuded from the smaller vessels into this cavity in considerable quantities on several occasions, the walls became covered with fibrin.

This form of lesion is the commonest cause of death from pulmonary hæmorrhage, the other principal causes of hæmoptysis being rupture of the wall of an artery without the previous formation of an aneurism, or, less frequently, hæmorrhage from the granulating membrane lining the

cavity. This latter, however, is more likely to give rise to small, slight hæmorrhages than to serious complications.

This case further shows the advantage of doing an autopsy on persons who die under mysterious circumstances. In this case it was thought that there might have been some foul play, some chest injury to account for the hæmorrhage, but when the result of the autopsy was made known the coroner decided that there was no necessity for an inquest.

A Case of Addison's Disease.—Dr. A. D. Blackader showed a patient suffering from what he believed to be Addison's disease, a disease characterized by two or three very prominent features: First, the discolouration of the skin, which in this patient is fairly well marked. More than that, it has the minute spots of discolouration which have been pointed out by Greenhow as being tolerably characteristic. He has also, on the front of the chest, pretty well marked patches of leukoderma. The symptoms, too, are fairly characteristic. The patient first entered the hospital complaining of asthenia, breathlessness, palpitation on slight exertion, inability to walk or perform work of any severe kind. At present he is scarcely able to walk across the hospital ward without getting out of breath. There is also associated with these symptoms a tolerably moderate amount of anæmia, his blood now containing only 2,500,000 red capsules to the cubic millimetre.

One other symptom which has been put down as characteristic this man has not yet had, viz, symptoms of gastric irritation; there has been no vomiting, no diarrhœa. Still, considering the short time the patient has been complaining of any symptoms at all, that is only from about the middle of February, we are scarcely warranted in expecting the disease to have reached its full development.

With reference to the treatment, Dr. Blackader proposed to treat the case by feeding with finely minced supra-renal capsules. He was led to do so by the similarity which can be traced between this disease and myxœdema, which similarity is especially touched on by Dr. Osler. In both we have distinct histological changes met with in the tissues, being in the one an increase in the mucin, in the other an increase in the pigment of the cells; and they are both accompanied by marked nervous phenomena. In myxœdema we have mental dulness,

in Addison's disease profound asthenia. We may also trace the likeness still further, when we come to consider the history of the respective glands which give rise to them. In myxœdema, before the connection was made out between it and the removal of the thyroid, it was stated that that gland was of no account in the economy, and that it could be removed without giving rise to any serious symptoms. Now, the same thing has been alleged of the supra-renals, and the question is whether they have any use in the economy, and whether their administration by the mouth will prove of any service in cases where the glands themselves are diseased.

Dr. MIGNAULT referred to a case of this kind which had occurred many years ago in the General Hospital under the care of Dr. Osler. The patient, a young man, was brought there with a discolouration of this kind; every one was much surprised at the condition and many theories were advanced to account for it. Dr. Osler finally diagnosed the case as Addison's disease. The young man only lived three or four weeks. Both supra-renals were found diseased, thus confirming the diagnosis

Dr. G. P. GIRDWOOD could just recollect having seen the case alluded to, and as far as he could remember the colour was very much the same as in this case.

Dr. ADAMI briefly noted a few cases of the disease which he had had the opportunity of observing. One of these was at the Addenbrooke's Hospital at Cambridge, England, a young woman, presenting all the cardinal symptoms of the disease, who, nevertheless, to the surprise of all, recovered under the arsenic treatment. He called attention to an autopsy held by him at the General Hospital the previous week, in which one supra-renal had become a caseous tubercular mass, the other being unaffected, and neither the history of the patient nor the post-mortem appearances yielded the slightest indication of Addison's disease. He referred to this case inasmuch as recently there had been recorded instances, contrary to the general rule, of Addison's disease associated with cancer, etc., of one supra-renal. He agreed with Dr. Blackader that the treatment by supra-renal juice was well worthy of being tried; the eminent success of Dr. Murray's plan of treatment of myxœdema by thyroid extract rendering it advisable that

other extracts should be tested in other more or less parallel diseases, though he deprecated the excesses that were already being recorded in the employment of body juices.

Dr. FINLEY knew of two cases of Addison's disease which had occurred at the General Hospital within a few weeks of each other. The first case was one in which the pigmentation was very marked, as the patient came in late in the disease. There was excessive nervous prostration, vomiting and fever, the patient dying in a few days.

The other case was one in which pigmentation was absent, and therefore it was not possible to make a diagnosis during life. Yet the train of symptoms was markedly similar in both cases—vomiting, nervous prostration, delirium and death.

He recollected a case in which he had performed an autopsy for the late Dr. Howard. There was an injury involving the right supra-renal, but without any of the symptoms of Addison's disease.

Dr. WYATT JOHNSTON remembered the two cases referred to by Dr. Finley, and which were called Addison's disease in the hospital. One of the patients showed a considerable amount of bronzing of the skin; they both suffered from diarrhœa, vomiting, nervous prostration and died, one of them rather suddenly. He had had some doubts about the correctness of the diagnosis. However, they have been looked upon as Addison's disease for some time. As to the condition of the supra-renals, in the one case there was slight tuberculosis, slight caseation; in the other there was none; at all events they were obscure cases, certainly not typical ones. He had examined the semi-lunar ganglia, with negative results, as far as finding any special fibrosis or atrophy of the nerves was concerned.

Dr. KIRKPATRICK referred to a man who came to the hospital complaining of general asthenia, and after some time developing illusions he was sent to the Verdun Hospital for the Insane. The asthenia increased until the man died, but shortly before death he developed marked bronzing of the face. At the autopsy the only lesion that could be detected was marked caseation of one supra-renal capsule.

Dr. MCCONNELL said that the treatment which Dr. Blackader is about to try seems to be in keeping with the principle which

is supposed to exist, viz, that the organs of the body seem to be amenable to their own secretions when taken as remedies. The idea originated in Brown-Séquard's elixir of life. A great deal of fun was made of Brown-Séquard at the time, but his remedy does not appear to be discarded even yet. Some short time ago Dr. Hammond, of New York, announced a new remedy for heart troubles, which he calls "Cardine," and which he thinks will prove a strong tonic for weak and fatty degenerated hearts. All have read of the effects of the juice of the thyroid gland in myxœdema, which is simply carrying out the same idea as that now about to be tried by Dr Blackader. We all will look forward anxiously for the results of this application.

Dr. J. E. Molson asked if a slow pulse is not a sign frequently found in Addison's disease.

Dr. Blackader, in answer to Dr. Molson, said that in all the literature he had read on this subject he had not noticed any such symptoms dwelt upon. With reference to the cases Dr. Adami alludes to of one gland only being affected, he understood that both glands are invariably affected in Addison's disease. However, it is most likely one gland becomes involved before the other, so in the post-mortem room one supra-renal may be found to have undergone destruction, while its fellow is only in the early stage. Both Addison and Wilkes and others in Guy's Hospital considered it necessary for both glands to be affected. Cases where only one gland is involved do not seem to stand very severe criticism, but recent investigations seem to show that there may be symptoms developed when only one gland is affected. Of course if one gland is perfect it should be able to do the work of both, and there should consequently be no Addison's disease. If, however, this is the case, if with a perfect supra-renal capsule in the body we have still Addison's disease, my remedy is not likely to prove of much account, as that would destroy the theory that it is the want of this tissue that gives rise to these symptoms.

Sclerosis of the Brain.—Dr. Johnston exhibited this specimen and gave the following report of the autopsy: Head only examined; nothing unusual about the scalp or external surface of skull cap; veins moderately full of blood; skull cap

of ordinary thickness; tables not denser than normal; veins of diploe moderately full; in inner surface no irregularities or abnormal appearances; dura only slightly adherent to the calvarium, which is removed with ease; outer surface of dura normal; longitudinal sinus contains soft, dark, non-adherent clot in its posterior half. On reflecting dura the pia over both hemispheres is thickened and has an opaque, milky appearance. Beneath the pia is excess of clear fluid, somewhat distending the membrane in the regions corresponding to the sulci. Moderate adhesion of dura to the pia along the convexity. Pacchionian bodies not unusually large; brain removed with ease; slight excess of cerebro-spinal fluid escapes during removal; dura at the base normal; sinuses normal. In the petrous bone on both sides the upper surface presents several small areas 0.1 to 0.2 inches in diameter, where a small cavity exists, only separated from the cerebral cavity by a thin, transparent, fragile membrane, readily broken with the point of an ordinary dissecting forceps. On examining the brain the contour appears to be normal; the vessels of the base are normal in size and arrangement and are free from obstruction. There appears to be some thickening in the pia arachnoid extending out into the sylvian fissure. No signs of hæmorrhage and no appearance at all suggesting the presence of old hæmatin pigment. Over the convexity the pia is greatly thickened and detached from the convolutions with much difficulty; when removed the convolutions appear to be normal in size and outline; no cysts. There is no trace of localized disease in the convolutions; in regard to this point the third left frontal and motor areas of the cortex were examined with special care and with perfectly negative results.

On opening the lateral ventricles they are found to be of normal size. The choroid plexus is somewhat denser than normal and is slightly adherent to the surface of the ventricle at the head of the right corpus striatum. Adhesions between the floor and the roof of the ventricle also exist in the region of the corpora quadrigemina, and the fornix is reflected with some difficulty. The ependyma of the lateral ventricles is smooth, but on passing the finger over it the ganglia at the base feel denser than normal. The fourth ventricle appears widened, the ependyma covering its surface is thickened and

covered with minute translucent grey granulations. The cerebellum is found to be normal.

On dissecting the ganglia at the base of the head of the right corpus striatum in the anterior one inch is smooth and of a dull greyish-yellow colour in patches. This region cuts with greatly increased resistance and leaves a smooth, pale, firmly resisting surface. On incising the substance of the hemispheres the white substance is found to be moderately firm and its vessels contain but little blood. The grey matter of the cortex throughout the whole of both hemispheres is greatly increased in consistency and cuts with great resistance; in cutting it a slight creaking of the knife is constantly noticed. On the cut surface the grey matter forms everywhere a raised ridge projecting above the level of the adjacent white matter. To the touch the grey matter feels firm and dense, the consistency being about three times that of normal grey matter. The colour of the grey matter is somewhat deeper and redder than normal and the thickness of the cortex is everywhere considerably reduced, being on the average 1 mm. and the maximum thickness being only 2 mm. This condition appears to be diffused uniformly throughout all parts of the cortex and no focal lesions can be detected.

Microscopical examination.—Throughout cortex, ganglion cells reduced in size and fewer in number; stroma dense, and contains more nuclei than normal; no infiltration about smaller arteries; section of cervical cord in upper cervical region shows no sclerosis.

Remarks.—It is difficult to say to what extent syphilis is to be held responsible for the state of the cerebral cortex in this case. A diffuse cerebral sclerosis with atrophy of the nerve elements proper is thought by some to be always due to syphilis. Others only recognize syphilis when marked endarteritis is present. The absence of arteritis in any degree sufficient to explain the change seems to lead to the inference that while the syphilitic poison possibly was the cause of the lesion in the right corpus striatum, its irritative powers had probably passed away at the time of death. The lesions in the brain do not appear to be definitely syphilitic, though the absence of syphilis can hardly be held proved where no examination of the other organs was made.

Dr. Perrigo gave the clinical history. In November he was called in to see the patient owing to the results of his falling down stairs. At that time the appearance of his face was so peculiar that it was thought he had been drinking, but afterwards this was found to be a mistake, he was an abstemious man, and had been so for years; but in the course of the enquiries a history of syphilis occurring some 50 or 60 years ago was obtained. His condition then and afterwards showed something as follows: In walking, while he could perfectly co-ordinate, he would suddenly have to sit down, as if struck on the head, owing to loss of power in his legs; it was this that caused him to fall down stairs. He was ordered the iodides, and that treatment was followed by a gradual improvement. Then he developed epileptiform attacks and some loss of memory and defects in the power of speech. This last was not of an aphasic nature, nor yet one of articulation; he seemed to stop in the middle of a sentence or middle of a word and go on to something else, all the time being unconscious of this defect.

On being sent to the hospital he appeared to improve, his speech became better, memory better, epileptic attacks ceased, the attacks of sudden sitting down became less frequent, and he was discharged practically a well man. In regard to the iodide treatment, at one time he was taking as much as 320 grains during the 24 hours.

The patient then went on a trip to Baltimore, and while there he grew worse. His defect of speech returned, patellar reflexes were gone, memory was lost, epileptic attacks returned, and he appeared to lose at times control of his muscles. In going to bed, for instance, in sitting on the edge of the bed, his legs would go through a series of irregular motions. He never, however, had any difficulty in feeling the ground. He then became maniacal and finally died.

Dr. Lafleur asked if the epileptic attacks were those of true epilepsy, or of a Jacksonian character. The reason for asking was because he had seen a precisely similar case, in which the same diagnosis was made—cerebral syphilis with meningitis, right-sided paraplegia beginning in the foot and gradually travelling up the leg. The patient was put on anti-syphilitic treatment, without much result. At the autopsy

there was no evidence of syphilis in the brain or viscera, in fact, no obvious lesion of the brain. But on more careful examination just such a condition as Dr. Johnston has described was found—diffused sclerosis, narrowing of the cortex. There was no lesion of the basal ganglia. There is a close similarity between the cases, both from the clinical history and the autopsy.

Dr. Armstrong related the condition of the patient while in hospital. His symptoms were mixed ones. He was maniacal and required a man to keep him in bed. His symptoms were largely irritative; noise would irritate him; lifting an arm would cause general spasms of the body. The right side of the body was distinctly weaker than the left; the grasp of his right hand was nil, while that of his left was fair. In addition to these he was unconscious for two or three days; no questions could be asked at all, and when consciousness and speech returned he was distinctly aphasic. Not being able to get any information from himself the diagnosis had to be made from the history and remarks of his friends. A diagnosis of cerebral syphilis had been made in London, and on the strength of this he was put upon the iodides and mercurial inunctions. Improvement took place, the power returned to his right side, his memory returned, speech returned, and his general condition was one of apparently very considerable improvement, supposed to be in consequence of the anti-syphilitic treatment.

Cirrhosis of the Liver with Jaundice.—Dr. Wyatt Johnston exhibited the specimens from a case under the care of Dr. Perrigo and read the history of the autopsy as follows:

Autopsy 28 hours after death.—Body of a large elderly woman; abdomen distended. Body intensely jaundiced over the entire surface of deep bronze tint; conjunctivæ deep yellow. Moderate rigor mortis and lividity. Subcutaneous fat in fair amount of deep bronze-yellow colour; in peritoneum about three quarts of clear, bile-stained fluid; peritoneum smooth; omental fat abundant; colon and small intestines considerably distended; liver does not extend beyond costal border. Spleen very large, over 300 gms.; on section dark and abundant; consistency not increased. Kidneys both appear to be nearly double normal size, are soft and deeply jaundiced.

The cortex appears swollen; supra-renals normal, pelvic viscera appear normal. Stomach contains about a tumblerful of brownish-black fluid. Mucosa reddened and shows signs of ecchymosis; mucosa soft, not thickened. Duodenum contains dark, slaty, greyish fluid. Bile papilla normal in appearance and no signs of catarrh in its neighbourhood. On slight pressure on the bile duct a clear, almost colourless, greyish mucous fluid readily flows out of the papilla. Bile ducts rather large, walls thin; their mucosa appears normal; no increase of connective tissue about the ducts; glands in portal fissure not increased. Gall-bladder contains a tablespoonful of pale greyish, thin fluid, not in the least bile-stained. Hepatic artery normal; portal vein rather small in calibre but appears normal. Liver weighs 1,900 gms., is of a deep yellow-brown colour, mottled with small pale yellow spots, evidently fatty. The surface is uneven and has a fairly well marked hob-nail appearance, the projecting portions of tissue being separated by fibrous strands running in all directions between the lobules. On section the organ cuts with but slightly increased resistance and to the touch does not feel very dense; the surface yields a greyish pulp on scraping; pancreas normal. Intestine contains greyish fæces; near the ileo cæcal valve the mucosa is normal. No enlargement of retro-peritoneal or retro-thoracic glands; lungs crepitant. Heart not opened. Brain not examined.

Microscopic examination of liver shows intense jaundice of the hepatic cells in places, with marked fatty infiltration irregularly distributed. Increase of fibrous tissue, which penetrates between and into the acini. No changes in connection with the bile ducts; no proliferation of epithelium or connective tissue in connection with the smaller ducts.

Remarks.—The rarity of icterus as a complication of cirrhosis of the liver makes it worth while to study carefully every case of this kind met with. In the present instance no changes were discovered at the autopsy or by microscopic examination to show that the jaundice was obstructive or had anything to do with anatomical changes in the bile passages, and is therefore not the biliary cirrhosis of French writers. According to Fagge icterus occurs in about 10 per cent. of all cases of cirrhosis of the liver, and is almost always a bad omen.

Dr. PERRIGO said that the patient had been under his observation for the last 14 or 15 years. She was a lady who was a good illustration of the difficulty of obtaining a reliable history in family practice. It was only the day after the autopsy that he succeeded in eliciting a true account of her private habit of dram-drinking. The case shows well to what an extent tippling can be carried on and yet kept secret from both husband and family. The patient was of a remarkably despondent temperament, always looking at the blackest side of every question. She was the subject of chronic rheumatism as well as chronic bronchitis, the latter, however, improving during the last year or two. About nine weeks ago, shortly after having a cataract removed from her right eye, she developed jaundice. Previous to that she had morning vomiting for six or seven days. The jaundice continued for six or seven weeks, but finally it disappeared under treatment, and remained away for three or four weeks. During this interval, however, she did not pick up her strength as well as might have been expected. Suddenly the jaundice reappeared and became very intense, and just as suddenly, a couple of weeks before death, ascites appeared. The latter rapidly filled up the peritoneal cavity and impeded respiration so much that it was thought advisable to tap her, which was done a few days before death, and several ounces of fluid drawn off. This, however, was not followed by much improvement as she finally became comatose and died.

From her facial expression he had suspected tippling, but always received such positive assurances to the contrary that he was obliged to put that possibility aside. During the last five or six months she had a peculiar drawn expression that made him suspect malignant disease.

Dr. BLACKADER endorsed Dr. Perrigo's remark of how frequent the habit of tippling exists in ladies in whom one can find no reasonable signs of it, ladies who had been secret tipplers for years, and yet in whom he was unable to detect the slightest symptoms of it; the tongue was clean; no excitement in conversation was ever evinced, no flushing of the face and, in fact, nothing which might point to the real cause of their trouble, namely, alcoholism.

The PRESIDENT suggested an examination of the urine for alcohol in such cases as a means of arriving at the diagnosis.

Appendicitis Occurring in a Patient with Sacro-Iliac Disease—Dr. ARMSTRONG related the following case: A young girl, 14 years of age, came to the hospital with a letter saying that nine months before she fell down stairs. Nothing was thought of the injury at the time, until about three months afterwards she developed a tumour in the right iliac fossa, accompanied by a temperature running about 103°. This condition improved, the temperature became normal, she was considered convalescent, but the right thigh became flexed and has remained so.

As she appeared in the hospital clinic, as to diagnosis, two very good arguments could be made out: one man could argue very strongly in favour of sacro-iliac disease; another man could produce just as convincing evidence in favour of appendicitis. In favour of the first we had the history of an injury, tubercular family history, flexion of the thigh, lateral curvature of the spine, that peculiar hitching up of the right side of the pelvis, which on looking at it from behind makes the perfect picture of sacro-iliac disease. In favour of the second we had the tumour, the high temperature, the pain, nausea, vomiting, etc. To settle the matter he decided on a exploratory incision, and on doing so very readily came down upon the appendix lying in a little pocket of pus. As this point it seemed quite clear that the case was one of appendicitis. However, after the appendix was removed and everything made nice and clean, he noticed that the right iliac fossa seemed to come forward more than usual, and on closer inspection decided there was evidence of inflammatory products within the sheath of the psoas muscle. On making another incision, then, this muscle was found throughout nearly the whole of its extent infiltrated with the ordinary cheesy material, commencing near the crus of the diaphragm and extending down to Poupart's ligament, where, no doubt, if left long enough, it would ultimately have pointed. Over the sheath of the psoas, and attached to it, the appendix was lying; at one spot there looked as if some necrosis had taken place, but there was no actual communication between the abscess in the appendix and that in the psoas.

So that, as may be seen, the evidence in favour of both conditions was well founded, the truth being that here we had a

case of sacro-iliac disease, in the course of which an appendicitis was developed. The patient made a good recovery after the operation; her temperature is normal, and she appears to be doing nicely in every respect.

Dr. ADAMI regretted that his investigation had not been as thorough as he would have wished. Examining some of the cheesy substance, however, he succeeded in finding some bacilli. In the appendix he found some chronic thickening, the outer wall being especially thickened and congested. On making the bacteriological examination he found in addition to inflammatory products, a large number of diplococci, micrococci and other pyogenic organisms; so that bacteriologically he came to exactly the same conclusion as did Dr. Armstrong clinically, viz, that in the appendix there was a simple inflammation, as shown by the presence of the ordinary pyogenic organisms, while in the cheesy matter we had tubercle, as shown by the presence of the bacilli.

Poisoning by Paris Green.—Dr. WYATT JOHNSTON, exhibiting the specimens, said that lately this usually quiet community seems to have taken to poisoning itself with paris green, as within the past month four or five cases of this nature have come before the public. On Tuesday last two inquests were held on cases of this nature by the coroner. In one case a large dose was taken about one week before death; the duration of life after the inception of the poison was due to the treatment which was inaugurated very soon afterwards, the pump and emetics being employed with a fair degree of success. In the second case a smaller dose was taken, but owing to the man not coming under treatment for some considerable time afterwards, he died much sooner than the first one.

The first specimen is from the case in which a relatively small amount of poison was taken and in which little after treatment was employed. There is intense engorgement of the vessels and ecchymosis of the stomach walls. As a rule, in arsenical poisoning the changes in the stomach wall are not nearly so profound as one might expect to meet with according to the descriptions given in the text books. In this case, however, there is an extreme degree of ecchymosis of the mucosa, hæmorrhages into the deep mucosa. The duodenum

also shows intense congestion, which evidently has gone as far as complete stasis. More or less hæmorrhage has also occurred in places throughout the intestinal tube, and well down in the jejunum particles of paris green were found.

The other specimen is one in which the dose of the poison was larger, but where the contents of the stomach had been speedily evacuated, death occurring one week afterwards. There is some congestion, although the reddening in the specimen is more pronounced than at the post-mortem owing to the action of the fluid in which the specimen was preserved. There is no ulceration here, no necrosis, simply a congestion of the mucosa. Congestion in this case, however, is not a symptom diagnostic of poisoning. The man just before taking the poison had been on a rather prolonged spree, and was besides an old drunkard, and under these circumstances some congestion of the mucosa might have been expected, independent of the poisoning.

An interesting feature in connection with the first case is that in the brain a region of softening was noticed in each hemisphere, almost symmetrical and situated in the region of the internal capsule. It is very unusual to find lesions of this kind bilateral, and still more so to find them situated in almost the same region on each side. In this case they go to show the existence of an old standing brain disease. This is a very important discovery from a medico-legal point of view. In the eyes of the law wilful suicide is a crime, but suicide while insane does not constitute a crime. This has important bearing socially, and also has certain religious relations which makes it very important to determine, if possible, whether suicide occurs in an insane person or not. In this case an autopsy was ordered for the special purpose of determining whether insanity could be established or not, and there was no doubt that a man with this condition of brain would be certainly one that would be extremely liable to suffer from mental weakness. We know that where there is a tendency to softening of the brain it is customary for patients to show more or less an unsound condition of mind, and in this case the history of the man's life during the last few years seemed to point to some cerebral trouble.

Dr. W. F. Hamilton related the clinical history. The first

case which came to the hospital was that in which a small quantity of the poison was used, half an ounce being the amount stated to have been taken. The man said that he had taken the poison at about 3 p.m., he walked home about 5 p.m. and was first noticed by his wife and daughter to be ill. To their enquiries as to the cause of his illness he admitted having taken poison, and a doctor was at once called who administered emetics and antidotes, and succeeded in having ejected some paris green and a considerable quantity of blood. At about 7 p.m. he, Dr. Hamilton, was called in, when he found the patient in a condition of collapse, his pulse being very weak, etc. Thirty grains of zinc sulph. with large quantities of warm water were given and then washed out the stomach with the stomach tube. At about half-past nine he was sufficiently revived to be conveyed to the hospital in the ambulance. On his arrival there another very efficacious emetic was administered, namely, a teaspoonful of mustard with a large quantity of warm water, which was followed by copious emesis, in which more paris green was noticed. At 12 p.m. he appeared to be a little easier; at 7 a.m. he complained of intense pain in the abdomen; his pulse was 120, his respiration 30. Bismuth sublimate gr. xxx. with $\frac{1}{2}$ gr. opium, as well as hot applications to the abdomen, were given. Little or no relief was experienced from this, and he died about 8 a.m., judging from the general symptoms, of cardiac failure.

The second case was another alcoholic. On the morning of the 20th he took three ounces of paris green. Immediately upon taking it he started for the hospital, and rushing into the office told what he had done. He was already being purged from its effects. About half an ounce of dialyzed iron was given to him immediately, as well as some zinc sulphate, until he vomited freely. He was then transferred to the ward and doses of zinc sulph. 30 grains were repeated until in all about 180 grains had been taken; no dose was administered until the previous one had produced free vomiting. At the end of each act of emesis he ejected large quantities of an intensely green substance. In addition to the emetics we administered both dialysed and oxide of iron. At 3 o'clock that afternoon he passed by the bowel some green substance which

was considered to be paris green. On the 21st he seemed considerably better. On the 22nd the temperature went up to 100°, the heart became weaker, and he became very restless. Through the latter part of his life he was constantly retching. Later he developed an intense congestion of the fauces, which interfered with swallowing. He died at 10 a.m. on the 25th, or about five days after his admission.

Report of the Committee Appointed to Draw Up Rules for the Prevention of the Spread of Tuberculosis.—Dr. Adami read the report, which appeared on page 14, July number of this Journal.

Dr. A. D. Blackader moved that the report be adopted and printed for circulation.

Dr. Hingston thought that the practical suggestions in the middle of the paper were admirable, but there is at the very outset laid down a principle which may not be universally adopted, and which, for the public, is certainly not necessary. It is that in every case of tuberculosis the tubercle must have been obtained from some pre-existing case where tubercle was present, and in that way alone. This question is a very large one and, as yet, a very debatable one, and a great deal may and has been said to modify that view. What, for instance, becomes of those experiments of Cruveillher, with which you are all no doubt familiar. In the healthy rabbit taken from the field he induced tuberculosis and caused its disappearance at pleasure. He caught them, confined them in a dark, damp place, and tubercles were developed. This he proved by killing several of them one after another and finding them in different stages of phthisis. Others, again, after they had shown symptoms of the disease, he liberated, and after they had been at liberty for some time he recaptured them, and examination showed that one after another the tubercles were being eliminated. Now, if tubercle is always due to the existence of tubercle bacilli in others, where did the healthy rabbits get the bacilli? Or were the bacilli responsible for the mischief in the imprisoned rabbits? That is impossible to say, as in the days of Cruveillher the bacillus was not recognized as the cause of tubercle, and even at the present day it is not universally recognized as the cause, while some think it the result.

In joint affections, and of these he spoke with more confidence, we commonly find the healthy child of healthy parents afflicted. On enquiring as to the previous health of the patient, we frequently get the answer, "Yes, the healthiest of my children." Then there is a history of an injury some time previously; the child, in the act of running or climbing, fell and injured the knee, the hip, or the sacro-iliac synchondrosis perhaps, as the case may be. An inflammation follows in the injured joint, and this inflammation is said to be due to the bacillus, rather than to the clearly recognized fall or injury! Where does this healthy child get the bacilli from? It is true that in the course of time tubercles may develop; but have we the right to say that they do so as the result of the child being brought in contact with the tubercular disease, rather than as a result of perverted nutrition? From time immemorial, inflammatory affections of this kind were treated, and generally without benefit, as strumous; it is only since they came to be recognized as inflammatory and the result of traumatism that treatment has become successful. This is one of America's great contributions to surgery.

Moreover, is it as yet quite settled whether the bacilli develop themselves in the course of the disease, or whether they already exist in the system, and manifest themselves only in the injured parts? In joint affections it is certainly not generally admitted that the bacilli are the cause. Cases sometimes occur where the origin of the disease is supposed to be due to some depression of the vital energies of the part, consequent on over-work or injury, inducing a condition where we should look rather for the spores of inflammation than for the bacilli of tubercle. Even now the latter are by some supposed to contain the former.

He fully endorsed all the other points of the instructions to the public: those relating to ventilation, cleanliness, etc., but thought we should stop there, and not say needlessy that which we will often find difficult to substantiate clinically, and which is unnecessary in a set of practical instructions intended for the public.

Dr. Adami, in reply to Dr. Hingston, said that this subject is an enormous one, and one that at this late hour of the evening it will be impossible to go into in detail. While he

could not now enter into all the evidence showing that tubercle is always obtained, directly or indirectly, from pre-existing tublercle, this, however, he would say, that in every case of typical tuberculosis if one takes a piece of the diseased tissue, be it lung or joint, and inoculate it into a guinea-pig, he will have set up a typical tubercular inflammation in which bacilli shall be found. In regard to the experiments of Cruveillher, they are on a par with those kindred investigations where it was shown, or supposed to be shown, that tubercles could be produced by the injection of particles of dust, or inoculating with bits of paper, string, etc., and of all these only the one thing need be said, viz, that they were made before the discovery of the bacillus, before the bacteriological method had come into use in such investigations, and as such they are imperfect and, he thought, must go by the board. In fact, it is highly probable that the inflammation which these men set up was not true tubercular inflammation at all, and therein lay their mistake.

In laying down the principle alluded to we are acting in accordance with the views held by the leading minds of France, of Germany, of England, and he did not think there was in England to-day a single man of scientific note who disbelieves in the bacillary origin of tuberculosis, and further still, we are acting in accordance with the views held by the majority of this Society.

As a reason why every case of tuberculosis must be derived from some previous case of the disease, he might say that the more one examines the habits of life of the tubercle bacillus the more certain one becomes that they will not grow at a temperature but three or four degrees below the blood heat, even if they be cultivated upon specially prepared broth. Now, the temperature of an ordinary room is always considerably below that point, and consequently bacilli could not propagate or manage to survive beyond a certain time in such a medium, and so we may infer that wherever a case is found it must have originated from a preceding case. In fact, Dr. McEachran pointed out that the disease was not confined to man, but that it existed and was prevalent amongst animals. It is one of the four great scourges of the bovine race. In joint diseases, therefore, we must not be content with looking

for previous disease in other members of the family, but we must also investigate the meat supply as well as the milk of these people.

Dr. GIRDWOOD said that supposing the person does not contract the disease from some preceding case, man or animal, how, then, does the tubercle bacillus become developed, unless by spontaneous generation, which at the present day cannot be admitted.

MONTREAL CLINICAL SOCIETY.

Stated Meeting, Oct. 14th, 1893.

DR. ALLAN IN THE CHAIR.

It was proposed by Dr. KENNETH CAMERON, seconded by Dr. SPRINGLE, "That the resident staff of the Montreal General and Maternity Hospitals be elected temporary members of the Society."

This motion was carried.

The SECRETARY then read the following report of the work done by the Society during the preceding session :—

Mr. Chairman and Gentlemen,—It is with a feeling of considerable satisfaction that I present to you the Annual Report of the work done by this Society during the session which has just been brought to a close.

Before proceeding further, I feel that it is my melancholy duty to record the deep loss which the Society, and the medical profession at large throughout the city, have suffered through the death of one of our members. I refer to the late Dr. Hugh Berwick. Although following the practice of dentistry, he showed his desire to be a thorough scientist by taking the degree of M.D. at McGill University. He took a most active interest in this Society, as was shown by the regularity of his attendance at its meetings, and would have proved one of our most hard-working members had he been spared. His cheerful face and kind ways will be greatly missed by the many friends whom he made, both in and out of the Society. Although we can no longer have our friend among us, let us all honour his memory by taking that active interest in the Society in which he set the example.

The past session has been one of uninterrupted progress in every sense of the word, and the Society has to congratulate itself upon both the quality and quantity of the work done and the number of new members who sought admission. The increase in our membership has surpassed all our expectations, being an increase of about 70 per cent. We started with 27 members, and ended the year with 46. It is a matter of regret to us that two of our members have left the city to practice elsewhere—Dr. Douglas Corsan having gone to British Columbia and Dr. W. Burnett to the United States.

Our record of attendance is very good, the average for the whole session being 16.22, our largest attendance being 23 and smallest 11. This may not appear to be a very large average, but it must be remembered that the majority of the new members did not join until after the new year. There were 18 meetings during the session, and but one member was present on all occasions. Two others were present 17 times, one 16 and one 15, the others coming below that. I regret to say that four members failed to appear even once.

Three evenings, early in the session, were devoted to a discussion concerning the attendance of medical men on benefit societies, when the following motion was adopted by the Society: "That, in the opinion of this Society, the system as at present existing, of medical attendance upon benefit societies, is prejudicial to the best interests of the profession."

The question of the admission of female medical practitioners to membership of the Society was introduced, and a motion to allow of their admission was put to the Society, but, after being very thoroughly discussed, it was thrown out.

Before giving a detailed account of the work done, I must thank the members for their assistance in compiling the programme, for without their aid the debates could not have been so interesting. I only hope that you will accord to my successor the same forbearance and co operation which you have shown to me.

The following microscopical specimens were shown to the Society:—1. Ovarian Carcinoma—Dr. Bruère. 2. Melanotic

Tumour of the Eye-Ball—Dr. Bruère. 3. Pediculis Pubis—Dr. G. Campbell. 4. Mammary Tumour—Dr. Bruère. 5. Suppurating Gland—Dr. Bruère. 6. Sarcoma of Lower Jaw—Dr. Bruère. Dr. Birkett exhibited a series of sections of the human eye mounted in glycerine, for the purpose of demonstrating the parts of the eye.

Pathological Specimens.—1. Ovarian Carcinoma — Dr. Bruère. 2. Scirrhus of Breast—Dr. Allan. 3. Uterine Fibroid—Dr. Bruère. 4. Bones of Finger with Anchylosed Joint—Dr. Kenneth Cameron. 5. Fibroid Tumour removed from a Tendon Sheath of Finger—Dr. Kirkpatrick. 6. Hydrocephalic Fœtus—Dr. Evans. Dr. Kirkpatrick exhibited some interesting photographs of a case of cloasma, and Dr. Morrow showed a very ingenious breast pump which he had modified.

Case Reports.—1. Pelvic Abscess—Dr. W. Grant Stewart. 2. Labial Chancre—Dr. Kirkpatrick. 3. Suppurating Inguinal Glands—Dr. Kirkpatrick. 4. Gastric Crises in Tabes Dorsalis—Dr. Gordon Campbell. 5. Appendicitis—Dr. Elsdale Molson. 6. Typhoid followed by Suppuration of Parotid—Dr. G. Brown. 7. Diabetes in Child of Thirteen—Dr. Vipond. 8. Peculiar Vaginal Adhesions—Dr. Springle. 9. Iodine Idiocyncrasy—Dr. Springle. 10. Difficult Diagnosis between Gout and Rheumatism—Dr. E. H. Blackader. 11. Strangulated Hernia—Dr. G. Brown. 12. Cystic Degeneration of Chorion — Dr. Hackett. 13. Post-Partum Syncope — Dr. Springle. 14. Carcinoma Testis—Dr. Thompson. 15. Two Cases of Bradycardia—Dr. Gunn. 16. Tracheotomy for Foreign Body—Dr. Orr. 17. Puerperal Septicæmia traced to Defective Drainage—Dr. Hackett. 18. Accidental Hæmorrhage, with Intra-Uterine Death of Fœtus—Dr. Kirkpatrick. 19. Two Cases of Tetany—Dr. Evans. 20. Summary of Cases of Scarlet Fever—Dr. Spiers.

Papers were read upon the following subjects :—1. Gall-Stones Accompanying Fever—Dr. Finley. 2. Artificial Feeding of Infants—Dr. Evans. 3. Varicose Veins—Dr. Schmidt. 4. Masked Tuberculosis—Dr. Morrow. 5. Anorexia Nervosa—Dr. Gunn. 6. Treatment of Puerperal Eclampsia—Dr.

Kirkpatrick. 7. Strangulated Hernia—Dr. Haldimand. 8. Malignant Sore Throat—Dr. H. D. Hamilton. 9. Asthma—Dr. Gordon Campbell. 10. Empyæma—Dr. Allan. 11. Diagnostic Value of Gastric Juice—Dr. Gunn. 12. Guiacol in Tuberculosis—Dr. H. D. Hamilton.

Since writing the above, the report of the President of the Medico-Cnirurgical Society has been read, and it is to be noted that the average attendance at their meetings was higher than it had ever been before, thus showing that the Clinical Society was, at any rate, not detrimental to its senior. Among the papers enumerated by the President were two by members of our Society, and special stress was laid upon their excellence.

With these concluding remarks, I beg to submit my Annual Report to the Society, hoping that it may be found satisfactory.

F. A. L. Lockhart,
Secretary.

The Treasurer's report was of a highly satisfactory nature. It was shown that the Society had a handsome balance, and that there were absolutely no liabilities.

The reports were adopted.

The posts of Secretary and Treasurer having fallen vacant. Drs. Evans and H. D. Hamilton were elected Secretary and Treasurer respectively.

After votes of thanks to the retiring officers and some general business, the meeting adjourned.

THE CANADIAN MEDICAL ASSOCIATION.

(Reported by Dr. J. N. E. Brown, Official Stenographer of the Association.)

Wednesday, September 20th, 1893.

Evening Session—*Continued.*

Dr. Eccles' paper, "Movable Kidney, with Two Cases of Nephroraphy," came next. This condition, he believed, was often overlooked and something else treated (often hysteria) for it. This resulted from neglecting to examine the kidneys—a matter always to be attended to in obscure cases with symptoms

of hysteria, melancholia and general nervousness and dyspepsia. This organ having no special support was in danger of displacement. The thirty cases Dr. Eccles reported were all females. Patients had a dragging down feeling, or aching in the back or along the ureteral lines. In most there was dyspepsia, accompanied by constipation, diarrhœa occurring in only four. In six there was an exacerbation of symptoms during menstruation. In some seven there was inability to lie on the side opposite the displacement. Intermittent hydronephrosis was observed in seven. Dr. Eccles then outlined two cases fully. The first had most of the typical symptoms for a number of years, the most prominent being the frequent attacks of severe pain, which at first lasted about an hour and latterly forty-eight. These were accompanied by swelling in side followed by its disappearance and a great flow of pale urine. The doctor could feel the kidney; had support and pad applied with complete relief. Movement, no doubt, of the organ had kinked the ureter. The speedy relief of this condition was conservative to the kidney.

In another case reported the abdominal support failed to give relief; operation was advised. After the usual incision the capsule was opened along the convex border one inch in width. Two silkworm gut sutures were passed into the parenchyma three-eighths of an inch deep, two catgut sutures through capsule and fatty capsule above and below, continued through the muscle and fasciæ. The fasciæ were united by separate catgut sutures before those through the kidney and its capsule were tied. Good recovery.

In a second case of operation Dr. Eccles did similarly, but did not dissect up capsule, as it was thickened and a cystic condition appeared underneath. A good recovery followed.

Dr. Hingston pointed out that a misplaced kidney was easily felt if the patient leaned forward during the examination. He showed how one might be mistaken by telling of one patient who came to him suffering in this way upon whom double ovariotomy had been done for its relief. This mistake would not be made if one, by grasping the kidney and making gentle traction downwards, found that pain was experienced, while

pushing it upwards gave relief. The reverse would take place in the case of the enlarged ovary. In many cases he thought operation unnecessary.

Dr. Bethune had had a few cases; they were all in women, on the right side. The trouble proved most annoying during pregnancy. One case he had, the kidney on removal was found to be cancerous. He thought cases of displaced liver more common than was generally supposed. He did not see how operation could help the patient much, as there would be difficulty in retaining it in position, even after operation, so little was there to which it could be solidly attached.

Dr. Bell, of Montreal, agreed that many of these cases needed no treatment. The condition was often accidentally discovered; but in cases where hydronephrosis developed some operation seemed to be necessary. He had no personal experience in the use of the pad and band, and did not think it likely they would do much good. He had operated on patients where this treatment had been tried and found to be a failure. He thought the operation of nephrorhaphy in many cases effectual in making a permanent cure. At first he was skeptical regarding the operation, but he got over that; he knew of no other means of rellef.

Dr. Lapthorn Smith agreed with Dr. Bell. The frequency of cases he believed to be due to improved methods in diagnosis. Formerly they were called hysteria. Dr. Smith wished Dr. Eccles would show his ingenious method of retaining displaced kidney in such cases as are not bad enough for operation. He was reminded of the principal causation of the trouble when he heard a young man remark to his friend, after a tight-laced young lady passed by them, "I wonder where she puts her thirty yards of intestines." He (the speaker) had not seen any cases of men with this affection. He considered the ounce of prevention to be a modification of the corset.

Dr. Eccles closed the discussion.

Dr. H. S. Birkett, of Montreal, read a paper describing a "Case of Sub Cordal Spindle-Celled Sarcoma," and its successful removal by thyrotomy. The doctor outlined a history of

the case. The principal symptoms were marked dyspnœa; hoarseness until almost complete aphonia occurred; in the latter stage, almost complete suffocation when in the prone position. Patient was thin and anæmic; was pregnant; was compelled to sit upright with mouth open. On examination, the laryngoscope showed a large sub-glottic tumour nearly filling the lumen of the larynx, dusky red in colour; vocal cords free. Tracheotomy was performed, low down; a tube made breathing easy. Labour was induced; tumour, strange to say, decreased in size. In three weeks tumour was removed by thyrotomy. Incision was made between the alæ down to upper border of cricord. On separating, tumour was well exposed; was attached to right ala of thyroid, just below vocal cord. After removal, site was cauterized with chromic acid. Three deep silkworm gut sutures closed deeper structures, and superficial ones the wound externally. Microscopical examination revealed it to be a spindle-celled sarcoma. The condition was unique. The operation of thyrotomy was practically devoid of danger in itself; its result depended much upon what it was done for. As to its employment in tuberculosis, opinion was divided. The doctor closed by detailing at length why he adopted the method he did rather than removing the growth *per vias naturales*.

Dr. OSBORNE, of Hamilton, commented on the decrease in the size of the tumour after delivery. He supposed it was on account of some reflex condition between the uterus and the tumour.

Dr. BIRKETT explained that the whole arterial system was in a state of great tension during pregnancy; after delivery, this would lessen much, and hence there might be a lessening in the size of the tumour due to the fact.

A splendid banquet was given to the visitors by the local members of the profession at the Tecumseh House, beginning after 9 o'clock. About 200 sat down. Dr. Hodge presided, and introduced the toast list. "The Queen" was honoured with the National Anthem. Dr. Hingston, of Montreal, and Dr. Præger, of British Columbia, responded for "The Domi-

nion," in witty speeches. Dr. Harrison, of Selkirk, spoke on behalf of the Ontario Medical Association. The Chairman, in toasting "Our Guests," warmly welcomed the visitors. He regretted that the meeting was at the same time as the Western Fair, as it had interfered with arrangements. Dr. Sheard, the President, replied warmly. Dr. Canniff, of Toronto, and Dr. Birkett, of Montreal, also spoke to the toast. Mr. C. W. Davis sang, and "The Ladies" were proposed by Dr. J. S. Niven, vice-chairman, and championed by Drs. Thorburn and Anglin.

THURSDAY MORNING.

Dr. HOLMES, of Chatham, read a paper which consisted of a report of two cases of laparotomy for unusual conditions. The first gave a history of miscarriage, preceded by hæmorrhage, and this was followed by pain in the left iliac region, where a swelling was discovered, like an orange in size and shape, two inches to the left of the uterus, and fluctuating. Laparotomy was performed, and an ovary containing three ounces of pus removed. The abdominal cavity was flushed and usual dressings applied; no drainage tube. The important point in the case was that there was no disease of the tubes. This was unique, as far as he was able to judge from the records. The second case Dr. Holmes had seen after the patient had been ill ten days. Pain was present in the right iliac region, where the attending physicians detected some hardness. Chills and fever, constipation, vomiting and great prostration were succeeding symptoms, also great tympanitis. No tumour could be made out at this time. Exploratory incision was deemed necessary. Appendix was sound. There was no obstruction, but peristalsis was absent. The gut was stitched to the wound, with the idea of incising if bowels did not move soon. This had to be done, the patient being then almost *in extremis*. A copious evacuation of fæcal matter from the fistula took place. Stimulants could then be retained, and the patient improved. But the fistula was a great annoyance. Dr. Holmes made several unsuccessful attacks to close it, but failed. Patient was then transferred to Harper's Hospital, Detroit. Resection of the affected portion of bowel was made,

and the ends joined by Murphy's buttons. Patient made a good recovery. The doctor showed the kind of button used, and gave a report of operations in which it had been successfully employed.

Dr. ATHERTON agreed with Dr. Holmes that abscess of the ovary without affection of the tube was rare. In regard to peritonitis with paralysis, he found puncturing to allow the gas to escape a good measure—two or three times if necessary. He had seen no trouble arising from such proceeding. This might be tried, and laparotomy avoided.

Dr. HOLMES replied to this by saying that he had employed this measure, but it was in cases where the abdominal walls were thin. Where the walls were thick, as in the case reported, he considered it unwise. In fact, when the abdominal wall was opened, one of the assistants introduced a small trochar, but without relief of the symptoms.

Dr. BELL, of Montreal, then presented a paper on "Some Unusual Conditions met with in Hernia Operations." See page 348.

Dr. CANNIFF asked how Dr. Bell diagnosed the omental tube which was cut off from intestine.

Dr. BETHUNE detailed at length a case of strangulated hernia which was not operated on, on account of stubbornness of patient. Suppuration occurred and a fœcal fistula established, which finally closed and patient made a good recovery.

Dr. McFarlane, President of the Ontario Association, and Dr. Temple, delegate from that body, were invited to seats on the platform.

Dr. BRYCE was not present to read his paper on "Prophylaxis in Tuberculosis," but his paper was handed in as read. It was pleasurable, the writer said, to see so much attention directed to a disease causing a greater economical loss than any other agent except alcohol. He gave some condensed results of a study of the subject taken from the mortality returns of the Registrar-General's Department of Ontario, and arranged the table so as to show the number of deaths occurring in persons of the same family. He also gave a tabular statement of

the total mortality returns of Ontario institutions for the insane for 1892, showing the proportion of deaths from consumption among patients. He also presented a tabulated list of the various diseases, showing from the annual report of the Inspector of Public Institutions for 1892 a large proportion suffering from this disease. Five per cent. of the total inmates of our hospitals suffered from this disease. The elements in prophylaxis partook of three qualities, individual, municipal and governmental. Individual prophylaxis depended almost wholly upon the intelligence of the infected person, his habits of life, and the extent to which he is impressed with the duty of protecting others. As to municipal, the first measures are largely those of improved local sanitation. As to governmental, it consists mainly in giving direction, financial support and legislative sanction to municipal efforts. He said, had he not been an interested and active spectator for two years of the manner in which legislation has kept in touch with public and professional opinion, he would think this visionary. He cited the numerous Acts providing for treatment of the blind, dumb, etc., and thought from the fact that there were but two limits to the class of municipal and governmental work, viz, the degree to which the public are informed regarding the need for work in this direction and the extent of municipal and governmental financial ability. This work was not to be considered relegated to the police, but to the action of intelligent, Christian men and women. The two objects to be held in view were, (1) the alleviation or cure of the tuberculariz ed patient, and (2) to lessen the danger to the healthy public. In the higher altitudes of our Province we had suitable climatic conditions. In such places homes might be established for patients—places where they may go and live. These places might be made self-sustaining, as many of the patients would be able to work. That such homes would be popular may be concluded from the success of such semi-private institutions in Germany.

The Nominating Committee presented their report as follows: It first recommended that the next place of meeting be St. John, N.B.

Dr. Canniff did not favour going so far. Few, if any, physicians came from that section to the annual meetings in Ontario.

It was explained that St. John was tacitly promised the meeting next year in view of London getting it this year, on account of the movement westward to the World's Fair.

Dr. Praeger urged the claims for British Columbia for 1895. The St. John recommendation was adopted.

The report, after a few amendments, resulted in the election of the following officers for the ensuing year :

President—Dr. Harrison, Selkirk, Ont.

General Secretary—Dr. F. N. G. Starr, Toronto.

Treasurer—Dr. Small, Ottawa.

Vice-President for Ontario—Dr. F. R. Eccles, London.

Vice-President for Quebec—Dr. Stewart, Montreal.

Vice-President for New Brunswick—Dr. Christie, St. John.

Vice-President for Nova Scotia—Dr. Muir, Truro, N.S.

Vice-President for Manitoba—Dr. Spence, Brandon.

Vice-President for North-West Territories—Dr. Mewburn, Lethbridge.

Vice-President for Prince Edward Island—Dr. Taylor, Charlottetown.

Vice-President for British Columbia—Dr. McKechnie, Nanaimo.

Provincial Secretaries elected were—Ontario, Dr. I. Olmstead, Hamilton ; Quebec, Dr. Anglin, Montreal ; Nova Scotia, Dr. Keen, Cowe Bay ; New Brunswick, Dr. McLaren, St. John ; Prince Edward Island, Dr. Johnston, Charlottetown ; British Columbia, Dr. Walker, New Westminster ; Manitoba, Dr. McDiarmid, Winnipeg ; North-West Territories, Dr. Calder, Medicine Hat.

It was moved and seconded that all the papers be read in the order received by the Secretary, and if the writer be not present at the time it should be read, that the paper be placed at the bottom of the list ; and futher, that it was desirable that an abstract of the paper be made and forwarded to the Secretary at least three weeks before the date of the Association meeting. After a good deal of discussion this was carried.

The Association Visits the Asylum.

On invitation of Dr. Bucke, of London Insane Asylum, the members of the Association went out to that institution for luncheon, being conveyed out on a special C P. R. train. They were taken first to inspect the sewage system. The sewage is used as a fertilizer on the farming land of the institution. The luncheon was thoroughly enjoyable; numerous toasts were drunk heartily, while the asylum orchestra, under Prof. Sippi, discoursed sweet music.

Thursday Afternoon.

The Association assembled in Victoria Hall at 3.30.

Dr. McPhederan addressed the Association on the subject, "The More Recent Methods of Diagnosis and Treatment of Diseases of the Stomach." He said that formerly it was thought that the stomach was the principal and only organ of digestion, but now it was known that the whole alimentary tract takes part in the digesting process. He said the function of the stomach was three-fold, viz: 1. To receive food and to partly change starchy and albuminous food into absorbable bodies. 2. To prevent the fermentation of the food. 3. To discharge its contents partly into the blood, but chiefly into the dueodenum.

For the first three-quarters of an hour no free hydrochloric acid was, he said, present in the stomach, as it combined with the albuminates; if present, there was hyper-secretion of it, which arrested the digestion of the starches. It reached its maximum in amount in four or five hours. The gastric juice retarded the action of, or destroyed more germs, specific and non-specific, than any of the other digestive ferments. The duration of normal digestion, he said, depended on the character and amount of the food, also on the age of the patient. The symptoms of stomach disorders were multiple and various. Until the last decade our knowledge of gastric disorders depended on experiments and symptoms, accidents, etc.; now we owe much of our knowledge to the stomach tube. This, he said, should be soft. The patient not only readily became accustomed to it, but even often would request its use. An

approximate knowledge of the stomach's contents would in most cases be all that was requisite for the physician in active practice. A test breakfast should be given consisting of a round of toast or a dry roll, with a cup of water or of weak tea or coffee, without sugar or milk. This should be withdrawn from the stomach after one hour's digestion. The acidity of a normal stomach, he said, should be due to lactic acid for the first 30 or 40 minutes ; after this time to free hydrochloric acid. These acids were discovered by Ufflemann's and Cunzberg's tests respectively, which the doctor described. It had been taught that absence of hydrochloric acid indicated carcinoma ; this was not the case. It might be absent in other conditions and present, even excessively, in this. However, it could be said that its persistent presence formed strong evidence in favour of cancer. The tube was useful in discriminating between gastric catarrh and carcinoma. The washing out would be followed by improvement in cases of the first, but not much in the second. It principal use, however, was in dyspepsia, in determining the acidity of the contents. On this our treatment could be based. The lavage stimulated the gastric gland secretion, and stimulated the muscular walls to renewed activity. Proper diet and general treatment would suffice to cure many cases. This treatment was particularly useful in alcoholics, also in infantile digestive disturbances. Constipation was relieved by its use ; also the gastric neurosis, reflex vomiting of pregnancy, the patient being fed through the tube. The subject was one of immense importance, on account of the immense frequency of disease of the stomach,—four-fifths of all the ailments medical men were called on to treat being caused by derangements of this organ.

Drs. Ferguson, Wesley Mills, Gardner and Praeger discussed the paper.

The meeting then divided into sections, Dr. I. H. Cameron presiding over the Surgical side, while Dr. Moorhouse presided over the Medical.

Surgical Section.

Dr. Primrose presented a paper, subject, " A Large Sarco-

matous Growth in the Neck, with Secondary Deposit in the Lung." It was found in a boy four years of age, a patient in Victoria Hospital, Toronto, under Dr. Cameron. It extended on the right side of the neck from the median line in front to a point near the vertebral spine, and from the lobule of the ear to the clavicle. Was noticed two years and three months before, corresponding to the region of the right lobe of the thyroid gland. Caused little pain. Was somewhat lobulated, with prominent veins coursing over its surface. Fluctuation distinct. Measurement on tumour side of neck, horizontally, 13½ in.; left side, 6 in. From lobule of ear on right side (over tumour) to outer extremity of the clavicle, 7 in.; on left side, 2½ in. Left pupil twice size of right. Some dysphagia. Child died in July. The tumour was found in the post-mortem to possess several processes, but it had not infiltrated or eroded the surrounding tissues, a point to be considered in the diagnosis. There were secondary deposits in the lungs. The anatomical relations of the various structures adjacent were much altered. The large vessels on the tumour side were entirely obliterated; those on left side were enlarged. The processes spoken of were in the direction of least resistance. The muscular structures in the neighbourhood were atrophied. In the upper part of the tumour there was a preponderance of fibrous tissue, and septa of this tissue divided it off into lobules of spongy tissue. A peculiar condition was found in the spinal canal, the cord being surrounded below the dura mater by a mass of tissue resembling in gross appearance the tumour growth, but it was not the same. It contained connective tissue corpuscles and nerve cells and fibres. Its nature Dr. Primrose had not made out. The tumour itself was examined microscopically, and proved to be sarcomatous.

The beauty of Dr. Primrose's paper was that he had frozen transverse sections through the child, which exemplified in a most splendid way his paper. The sections were much admired by the Association. Photographs of the same were also presented for inspection.

Dr. PRAEGER spoke in high terms of the paper and the sections.

Dr. R. Ferguson, of London, then gave a report and presented a recent successful case of cholecystotomy. The symptoms of gall-stones in this case were for a long time obscure, the pain being referred to the epigastrium. No pruritus, fæces lacking the characteristic colour, and the absence of jaundice. Pulse and temperature remained normal. She had many attacks of pain, which were relieved by hot appliances and morphia. These paroxysms did not appear or disappear suddenly. Gastric ulcer, gastritis and intestinal colic were excluded. Gastralgia was probable. Stomachic treatment gave no relief, the ordinary treatment for gall-stones afforded no relief; but finally some of the typical symptoms of gall-stones began to show themselves. Patient was transferred to the hospital, with a view to operation, but after lying quietly two or three weeks she improved so much that she went home, operation being postponed. But she soon became worse. On one occasion she had felt, after a severe paroxysm of pain, a dropping of something in the region where the pain existed. Operation gone on with. Eighty gall-stones removed, the edges of incision of the gall-bladder being sutured to the edges of the wound. A cough retarded the process of healing. Repair did not take place well. Suppuration set in, parotitis in left gland set in, also localized peritonitis. The attacks of pain returned. Dr. Ferguson then tried to insert a catheter through into the bile duct, which he thought he accomplished. The side of the catheter appeared to grate on some hard substance, but improvement took place, and patient returned home in ten and one-half weeks after the operation. But in four weeks the symptoms reappeared; pain very severe. Chloroform had to be administered constantly, as morphia seemed insufficient. She inhaled thirty-six ounces. Another operation was decided on. The incision was extended downward one and a half inches lower, allowing exploration with the finger in the region of the bladder. A body $2\frac{1}{2}$ in. long and $\frac{1}{8}$ in. thick was scooped out of the gall-bladder. The patient made, although very nearly collapsed at the close of this operation, a good recovery. The pain in the second instance, the doctor thought, might have been due to

the presence of the mucous cast (if such it was), which might have been forced out of the bile ducts into the bladder.

The doctor's paper was valued highly. The patient was present, and the seat of operation exposed for inspection. A small biliary fistula was still to be seen, but in other ways the patient seemed perfectly well.

Dr. CAMERON, chairman of the section, asked why cholecystectomy might not be done in such cases rather than cholecystotomy.

Dr. PRAEGER had had a case where the pain was referred to the epigastric region. The doctor then outlined the case. It proved to be much like Dr. Ferguson's, only that the stones were in the duct, instead of in the bladder, and were adherent to each other. In closing, the edges of the bladder were stitched to the sides of the wound. He was of the opinion that cholecystectomy should be preferred to cholecystotomy.

Dr. MEEK had seen and helped with Dr. Ferguson's case, and agreed with him as to the causation of the recurrence of pain after the first operation. Dr. Meek cited another case, in which the peculiarity was the immense dilatation of the bladder—one they had recently operated successfully upon. He was surprised to hear that Tait had adopted cholecystectomy instead of cholecystotomy.

Dr. PRAEGER told of a similar case he had to that of Dr. Meek. The bladder contained one and a half pints of bile and some forty stones.

Dr. SMITH, of Fingal, then reported on Dr. Meek's last case, which was under his care. Patient was doing well. A point he dwelt on was that the temperature at the time of operating was 105° ; in three hours it was normal and had remained so.

Dr. CAMERON then spoke of the propriety of removing the gall-bladder. In cases especially where there was great distension and the presence of a number of stones that operation was preferable ; there would thus be less danger to the peritoneum after the operation ; the persistence of a bilary fistula is done away with. The bile instead of escaping externally should

take its natural course and thus carry out its digestive function in the intestines. Dr. Cameron spoke of the administration of large doses of glycerine, two or three ounces each hour of the paroxysm, for the relief of cases of gall-stones. He supposed it acted by its hydrogogue effects, dehydrating, and thus relieving, the swollen mucous membrane. He had seen satisfactory results from its use.

Dr. FERGUSON said he had tried equal parts of glycerine and succinate of iron (about half an ounce of glycerine) four times a day.

MEDICAL SECTION.

"Some of the Uses of Sulphurous Acid," was the subject of a paper read by Dr. Arnott, of London. He began by saying that he had in his experience profited most by learning new applications of old remedies. Sulphurous acid was an old remedy; Homer spoke of its use in fumigation; the doctor spoke of its application in typhoid fever. It was particularly useful in that class (for he held typhoid had different causes) of typhoid due to rapid multiplication of bacteria in the blood. The remedy should be freshly prepared and administered early in the disease. He would give from half a drachm to a drachm every two hours, or even more, if the patient could stand it. With it he had not lost one per cent. of his cases, and his patients, he said, were never given alcohol. To his mind it was the remedy in typhoid; in early phthisis it was useful; it did not hurt the stomach. He had almost discarded the use of cod liver oil. It had been noted that consumptives who laboured in sulphuric acid works improved in health.

(*To be continued.*)

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VERTICAL HANDWRITING.

In an article in the *Popular Science Monthly* under the heading of "An Argument for Vertical Handwriting," J. V. Witherbee points out that not only is the present mode of teaching writing contrary to Nature, and the writing so taught difficult to read, but that writing in which the lines are upright, instead of at a slant of fifty-two degrees, is easier both to read and to write. The main point, however, is that the position assumed by the pupil who slants his letters is very bad from a hygienic point of view. As a rule, he sits sidewise to the desk, with only one arm supported, and as a result one shoulder is higher than the other, besides the head is commonly turned until a line connecting the pupils of the eyes is parallel to the line on which he is writing. Nature impels him to twist his neck, so that one eye shall be at the same distance from the letters he is making as the other. Unless he does turn his head, the eyes are not equidistant from his work, which tends to shorten the sight of one eye and lengthen that of the other. This accounts in a large measure for the need of two glasses of different power for the same person, so frequently met with at the present time. This position, with one shoulder higher than the other, continued day after day, results in a lateral curvature of the spine. With the vertical writing this is impossible. At the foot of each copy slip the following directions are printed:— "Sit squarely facing the desk, with feet flat on floor. Raise seat so that both forearms, when placed half their length on the desk, are nearly level. Place paper squarely in front of

breast bone. Keep elbows close to body. Sit erect." Compare such a position with that usually assumed by the pupil who writes the ordinary slanting hand, and at once a strong argument in favour of the vertical handwriting is seen. Other advantages of the system are that it can be written more rapidly and occupies less space on the paper. In England this new style is making rapid headway, so much so that the examiners require its use in all branches of the civil service. Many English and Continental schools have adopted it, and Professor John Jackson has prepared a set of copy-books, which have been published by Messrs. Sampson, Low & Co., London. We commend the idea to the members of the medical profession, and hope that they will endeavour to have the system introduced into the schools. If anyone doubts the superiority of the vertical handwriting, let him follow the directions we have given and see for himself which is best.

THE PARASITIC PROTOZOA OF CANCEROUS TUMOURS.

In an interesting article in the October number of the *Journal of Pathology and Bacteriology*, Messrs. Ruffer and Plimmer continue the discussion on the parasites of cancerous tumours. To the account of their further researches are appended numerous coloured plates illustrative of the microscopical specimens examined by them.

As viewed in the light of present experience, the parasite is a unicellular organism existing chiefly in the protoplasm of the epithelial cell, though occasionally found within the nucleus. It has a nucleus (or, at all events, a body which resembles the nuclei of other protozoa) whose structure varies, and whose microchemical reaction is such as to enable us to differentiate it not only from the nucleus and nucleolus of the epithelial cell which it has invaded, but also from the invagination forms concerning which so much discussion has recently taken place.

Observations on the parasite have been made with both hardened and fresh specimens; for the former method, osmic acid, chromic acid and Fleming's solutions being employed. Of the staining media used, most satisfaction was obtained

from the employment of hæmatoxylin with cochineal, and from Biondi's reagent. The parasite, however, may be examined in fresh specimens, when it is seen to possess a capsule and a translucent nucleus whose form varies from time to time. After the parasite has attained a certain size, it is observed to assume a radiate appearance, the striæ starting from the parasite itself, and not from its capsule. As regards the capsule itself, observations point to its being secreted by the invaded cell, leading recent workers to consider it as a protective act on the part of the cell. However, the relation existing between the capsule and the cell still awaits a more lucid explanation, inasmuch as the cell is frequently observed leading an existence outside, and perfectly independent of, its capsule.

The protoplasm of the organism may be homogeneous or granular. The nature of the granules, though not fully understood, are believed to be possibly due to the process of hardening under which the specimens have been treated. That they bear no relation to the process of reproduction seems conclusive, for neither do the granules possess any regularity of growth or development, nor have they been seen to burst the capsule or otherwise set themselves free.

Interesting results have also been obtained by these writers concerning the method of reproduction of the organism, in which they are enabled to refute the theories of falciform bodies found by Wickham, Sjöbring, Sawtschenko and others. The parasite is reproduced by fission, thus resulting in the formation of two organisms or a multiple of two. The nucleus first elongates, becoming oval, then divides into two exactly equal parts, which gradually separate from one another, though connected together for a long time by fine, thread-like filaments. The capsule has now a variable experience, though it generally divides contemporaneously with the nucleus, throwing out from opposite folds processes which form a septum between the divided halves of the nucleus. In one and the same cell may be seen several nuclei undergoing this process, which while thus reproducing numerous parasites in the same cell, yet allows to each its own capsule and an independent existence.

The article closes with a lengthy criticism of the theories

of Arnold and Wickham concerning the endogenous cell formations, which the writers regard as merely invagination cells or leucocytes, and substantiate their views by reference to differential stains. In differentiating the parasite of the cancer cells from the other nuclei present, many staining fluids are employed. With hæmatoxylin and saffranin combined, the nucleus of the epithelial cell absorbs the saffranin, while that of the parasite takes on the hæmatoxylin stain; with hæmatoxylin and cochineal, the nucleolus of the epithelial cell stains blue, while that of the parasite becomes red. Such and many other differential points are mentioned in attempting to prove not only the presence of the parasite in the cell, but its distinguishing features and properties as opposed to the invagination forms of other authors. The subject of the etiological relation of the parasite to the disease is not dealt with, the writers awaiting the completion of their researches.

Obituary.

Death of Prof. Marcus Beck.—We regret to announce the decease of Professor Beck, Professor of Surgery at University College, London. The *Lancet* states that he had for years suffered from the affection (diabetes) which has carried him off in the height of his career, but he never allowed the consciousness of his grave condition to interfere with the discharge of his duty in the profession to which he was so keenly devoted. A fellow-student and former colleague writes:—"To those who knew him, Marcus Beck was a man of unique characteristics. Gifted with a ready facility of speech, at once apt, clear, incisive, attractive, and even fascinating by its vigorous originality, he was a clinical teacher of rare power, intelligible alike to the beginner and to the oldest student. No one could listen to him without gaining new knowledge, clearer views, and an impetus to think out the problems, practical and theoretical, which modern surgery presents."

Personal.

Jas. E. Trueman, M.D., (McGill, '81), has obtained the license of the California State Board of Examiners, and has settled in San Jose.

Medical Items.

—On reading over some "practical hints to the nurse," in a popular medical journal, we noticed the following: "Sore lips should be anointed with a little diluted water." No information is given as to the method of diluting the water.

—We take the following from the report of a case of uterine hæmorrhage in which the patient had been so much reduced that "she was so weak she could scarcely speak above a whisper, was greatly emaciated, and nearly dead in every respect. For the hæmorrhage I gave fld. ext. of erigeron can. and lycopus virgin. aa., and directed it given teaspoonful dose every three or four hours. For constitutional treatment I gave:

℞. Nux vomica fld. ext.....
Bryonia alba fld. ext .....
Oesculus hippo. ext.....aa.....dr. ss.
Chionanthus virgin. ext.....
Mandrake ext .....
Hydrastis (fluid).....aa.....dr. iv.
Cascara sag ext.....oz. j.
Xanthoxylum frsx. ext.....oz. iij.
Elix. zinziber.....q.s.....add.....oz. viij.

Sig. Teaspoonful in a little water before each meal.

"For her 'nervous spells,' I gave:

Gelsemium and hyosiamus .....aa.....dr. iv.
Elix. zinziber.....q. s.....oz. iv.

M. Sig. Teaspoonful in a little water every hour until relieved."

The shot evidently scattered so that some of it struck the weak spot, for we are told that the patient recovered rapidly.

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Original Communications.

THE GENERAL PRACTITIONER AND THE INSANE.*

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Mr. President and Gentlemen,—In this imperfect paper there is no pretension of attempting to bring before you anything new in connection with that branch of medicine in which I am engaged. Doubtless there have been introduced in recent years innovations for the amelioration of the insane that might be reviewed with profit. But the physician who can find leisure from the whirl of practice to learn of these things, has opportunity to do so in the ever-increasing literature that deals with alienistic themes.

My desire is to remind the general practitioner of some jottings touching his relations to the insane ; to dust the corner of his memory where lie the psychiatric teachings of younger days, if he had such, for it is only within later dates that colleges have recognized the value in lectures on mental diseases.

As it is now the custom to relegate the sick in mind to institutions set apart for their cure and care, too often the doctor in general practice deems it unnecessary to trouble his mind with the mind's troubles. His lot is thus easier than his brother's, who gives his life to the insane work. For the mentally sick are liable to all the ills of the flesh as well, to which the asylum

* Read before the Canadian Medical Association, September 20th, 1893.

physician must attend He cannot, therefore, neglect his surgery, for among his patients traumatism is common; paretic bones are fragile; there is a share of major operations. Indeed, the greatest triumphs of the art are in brain surgery. With medicine he encourages intimacy, for often diagnosis is obscure from inability to glean other than objective symptoms. His patient may be oblivious of pain or dumb to all enquiries. Sometimes, too, he must welcome the little stranger to a sad world, for not rarely the strain of pregnancy unhinges the mind.

Seemingly little as the general practitioner has to do with the insane, yet there is no one on whom falls weightier responsibility regarding them. With him rest questions whose decision may make or mar the life of the mentally afflicted. On him depend the diagnosis of a person's insanity, the advisement or administration of the adapted treatment, the certification of the mental condition in legal form if hospital surveillance is determined on. All of which considerations are of vital import, not only to the patient, but often to a circle of relatives, and, indeed, if carelessly undertaken, may rebound injuriously on the practitioner himself.

On these points we will enlarge, believing that they will interest you more than any recital of the advances in hospital methods, pleasurable as that might be. The diagnosis of insanity which may stagger the expert, and yet which in this country commonly lies with the general practitioner—of this we will give some hints further on, in discussing medical certificates.

Once convinced of a person's lunacy, the question a physician must poise in mental scales is, shall he advise *home* or *hospital* treatment? and he must decide quickly. If hospital care is essential, every day's delay lessens chances of recovery. Alienistic observers agree that insanity is more curable the earlier it comes under treatment. It is well to remember, however, that the doctor should only advise, advise as urgently as necessary, but let the friends assume all the responsibility of whatever course is followed. Indeed, in some cases, it is prudent to have writing to that effect. Now that insane hospitals are efficient to a satisfactory degree, in most cases it will be wise to

suggest transference to one of these. Nevertheless, there may arise cases so manageable that the medical man may have confidence in his ability to treat them himself, and results may justify this course. There may be those that for some good reason cannot be removed at once. There will be cases where friends will prove obstinate to conscientious counsel. Then the physician must endeavour to extemporize equipments essential to the hospital in the home, or, better, in some rural resort, for nearly always change of environment is advisable. But this can be properly done only for the few. The plan will be beyond the many. In any case but the mildest, two experienced attendants will be necessary, and other expenses will be heavy. Above all, the relatives take on themselves a responsibility often involving human life, that hospitals are more able to assume. Moreover, it will be difficult to restrict the liberty of the sufferer, who is not sick in his own eyes. In short, the treatment of patients at home is utopian. We believe the cases are few that will not have more hope of betterment in a hospital. This means no reflection on extra-mural skill, but the management of insanity is such that it cannot be well imitated in general practice. We are not blind to the fact that objections to hospitals hover round the stigma that families imagine will cling to the name if one of their number has been within asylum walls. This, alas! is our inheritance from the dark days when people had reason to look on these as lunatic prisons. But such times are only history, and it is our duty to help break down present prejudices. The asylum is now as free from objectionable features as the general hospital. There has been a revolution in treatment within the lifetime of many of you. The odium is lifting, and the hospital idea in the waning years of this progressive century is predominant. Even the ancient term, asylum, with its suggestions of custody, is in many places only a memory. Insanity is unveiled in its true character—a disease, and not a crime. Improvements have been going on, till to-day curative establishments are prepared to cater to the preference of wealth; institutions for the public are on every hand holding out remedial care, with every com-

fort that the appreciative can desire. The nurses selected are trained thoroughly, so that the attendant, as one puts it, is no longer a keeper, but the companion of the insane. Intelligence and tact have deposed brute force. Many an asylum corridor is as free of lock and bar as was the patient's home. The surroundings breed contentment. Occupation and amusement are made a constant study ; for entertainment is found in our day as diverting as in the first authentic lunacy of history, when the melancholy monarch was " refreshed " by the strains of David's harp. It becomes medical men to keep informed in the strides asylum management is making. Knowing the merits of the modern institution, and that it is a potent instrumentality for good, we can recommend it as a desirable retreat for patients.

A physician will not be long in practice, however, without meeting some insane one whom he will have to attend temporarily or throughout his illness. A grasp of the principles of treatment for mental ailments may then be of service. While each case must be treated individually, there is much common ground. Change of scene and companionship is almost always advisable for your patient; perhaps a quiet journey or ocean trip. A nurse or two, qualified for the work, is indispensable. Relatives, often the best attendants in bodily suffering, make the poorest for the mental invalid, who is sure to do as he pleases with them. Often he dislikes most those whom in health he loved. How often we see a patient as docile as a lamb from the day he crosses the hospital threshold, who has been infuriate in his home. Ordinary sick nurses are little better than the sympathetic relation. They are prone to be awed by the wild fury of the maniac, or shocked by unlicensed language, much to the delight and encouragement of the lunatic.

With many of the insane, *sleeplessness* precedes or is concomitant with other manifestations. This insomnious condition brooks no delay, especially if the case is in its incipiency. The natural brain restorative is sleep. To produce it there is no catholicon. The ideal sedative is yet to be found. But some have merit. First and above all must we try to invite repose

by measures intrinsically harmless, as open air exercise pushed to pleasant muscular fatigue. A few hours' labour, or a drive for weaker ones, will often calm the brain storm and secure restoring slumber. A full meal will induce sleep in some, as we know from analogy. Then there is the hot bath (104°), which is surprisingly efficacious. These simple means will fail sometimes, and drugs be indicated, but we must beware that nature does not come to depend on them. Let us glance at a few that the alienist has proved useful. Alcohol is helpful where stimulation is needed as well as sleep. In small doses it will dissipate the wakefulness of anxiety. In larger quantity it will rarely fail in any case. Hyoscine has displaced its fellow, hyoscyamine, than which it is more uniform and certain. Hyoscine is indicated where there is motor excitement, and has been abused as the agent of chemical restraint. By its aid violence is calmed and loquacity ceases. It has advantages: its dose is small and tasteless, its action prompt, tolerance is slowly established, and no habit formed, as no pleasurable sensations ensue. Paraldehyde is preferred by some. It produces natural sleep, does not irritate the stomach ; no headache follows its use. The unpleasant taste and odour to the breath are its drawbacks, and we find some have a repugnance for it. Sulfonal is successful often, and ordinarily safe. Its effects are lasting, though slow, but may be hastened if given in gruel or milk or water as hot as can be borne. An increased dose is not needed, the second acting better than the first. Our old friend chloral and the new chloralamide and trional have their advocates also. None of these will avail if the sleeplessness is caused by bodily pain. Then, and then only, is opium called for. I emphasize this because this drug is over-used. With some it is routine practice to prescribe it. It is useless and harmful in insanity, as it impairs digestion and bodily health, and thus combats the effects we most desire. The remedies mentioned are the popular sedatives, but their use must be deferred till other means prove futile. There is a temptation to over-drug the lunatic. It has happened that the ill effects of indiscreet medication have had to be eliminated before improve-

ment began. The people have great faith in their virtues. A question sure to be asked about an insane friend is: Does he take his medicine regularly? Neither will you have many cases before some sensitive relative will suggest: Can't you give him something so he won't know we're taking him to an asylum?

As with mental aberration there is usually found bodily debility, either as cause or result, consequently we run the gamut of the standard tonics, and find it the rule that mental improvement keeps pace with the physical. Cowper has said, and he ought to know,

> "The frenzy of the brain may be redressed
> By med'cine well applied."

But there are other agencies to heal a mind diseased which the modern alienist places in the van of all the resources of the pharmacopœia. Such are the practice of hygienic teachings; the culture, employment and amusement of the patient; the application of mental therapeutics; in short, all things that tend to lift the patient out of his self-absorption and develop altruistic feelings. To describe them is to detail all that is embraced in the comprehensive term "Asylum Management," which is not possible. They will be rarely expedient outside.

Lastly, the nourishment of the patient must not have least consideration. Improvement often dates from the ingestion of a good meal. Many eat too little or not at all, and must be fed by the stomach tube. This forcible feeding should not be postponed. There is no special rule as to diet. Eggs and milk in abundance should form the basis. It must be borne in mind that maniacs will assimilate many times the amount of food needed in health. Whatever treatment is pursued, everything centres about an effort to build up the patient.

Finally, we come to the delicate duties that devolve on the profession in committing the insane to hospital. The hand of justice sets safeguards about the citizen's liberty, and forbids his being put under restraint without legal proceedings. It may seem waste time to say this, but some act as if ignorant of it, for insane have presented themselves at asylum doors with

only an informal line from an intrepid physician beseeching their admission. It is felony to detain any person without definite legal conditions. These may seem exacting, but the superintendent does not coin them, neither can he alter the laws of the land. Doubtless, over-stringent lunacy laws have delayed the restoration of many a curable case. Take Illinois, for example, where every suspect is dragged before a jury, no matter how ill, and made the butt of the court idlers. What is the consequence? The sensitive hesitate to seek the commitment of early cases of insanity, and have family troubles exposed. Nothing is gained, for sane people have been deprived of liberty under the system. Too many legislators would thus submit the sick in mind to the same ignominy as criminals.

In Canada, we are progressing towards the ideal we hope for, that holds liberty sacred, but still admits the insane to treatment without injurious delay. We are many steps from it yet, however, at least in Quebec. The only cases where we think strict formalities should be dispensed with are those where persons come of their own accord for admission, as they do sometimes to most superintendents. Such are usually genuine patients, seeking relief from symptoms recognized by themselves, the forerunners, perhaps, of serious mental disease. These should be allowed to enter as freely as to a general hospital. However, our duty is in the present, when it is obligatory that patients be admitted in a set way. Certain formal documents, correctly prepared, are requisite. Those who see many of these observe occasional errors, for which the fallibility of human nature is answerable. Some of the points commonly neglected will be noticed, in the hope that benefit may accrue to some case of "moping melancholy" or "moonstruck madness."

In our different provinces, the blank forms vary somewhat, but the essential features in all are based on the English statutes. Whatever else be wanting, a medical certificate is always required, and with it some history of the patient. When the friends of an insane person accept a physician's advice to adopt hospital treatment, the admission blanks should at once be pro-

cured from the proper authorities, usually an asylum superintendent. In making application therefor, such particulars of the case should be sent as the patient's name, sex, age and duration of disease. Acute attacks will be favoured, if there is any choice. When the blank forms are received, the doctor who wishes the best for his patient will exercise his medico-legal knowledge in supervising the preparation of all of them, that delay through mistakes may be avoided. Till the papers are correct, the patient will not be admitted. The various blanks are, as a rule, self-explanatory, and require only reasonable care as to details in filling them up. As to the medical certificate, practitioners often forget that the printed portion is fixed by law, and requires as particular attention as any. In this formal part, both the examiner and the patient must be designated precisely, and the date correctly inserted. These slight requirements are important to the identification of person and place. The lawyers set great store by them. It renders the document defective if there is any doubt as to who is spoken of. If ever you have to defend your certificate, nothing will create a more favorable impression for you than absence of negligence in attention to details.

In the body of the certificate must be written grounds on which the person is judged insane and suitable for confinement, and here there is a painful laxness in many cases. To fill this part will necessitate your examining the patient, for the basis of proof must be gathered from personal observation of his present condition. Knowledge of the past, and opinions of others, though valuable, can only be introduced secondarily. Hence is invalid this certificate, which I have seen, whose baldness is relieved only by, "Have seen him in previous attacks," or this example, "I am inclined to think he should be confined in a lunatic asylum, by the report which is given me by the members of his family." What a walk-over the prosecuting lawyer would have if these cases came to Court!

The prudent man will learn all he can of his patient's past and present character before interviewing him, but the opinions of interested parties must not bias his mind nor hurry a per-

sonal examination. There is the possibility of sinister motives. Make sure the patient is sober and uninfluenced by any "insane root that takes the reason prisoner." Not only should the doctor act in good faith, but he should ascertain why the relatives want the patient removed; still, that a man is dangerous is not the sole reason for seeking the restraint of a hospital. Modern English law regards necessary care and treatment sufficient ground for detention.

To gain access to an insane person is not always easy, and there may be actual danger in the attempt. It is the relatives' place, however, to protect the medical man, and if they will not try to do it, he is not called on to run any unusual risks. It is generally best to confront your patient undisguised. It is not necessary to volunteer information as to why you have come, but it is a mistake to deny you are a doctor. Deception may gain a point, but it will militate ultimately against his cure, and breed lack of confidence in those who have to deal with him in the future. Some patients' derangement will be evident at a glance, but it will sometimes require much tact to disclose the minds of others. Many lunatics have the cunning to conceal their foibles, especially if they suspect your object. Experienced men have withdrawn from more than one inquiry without detecting delusions that had existence. Someone has thrown out the hint that a man is likely to betray his lunacy if a question is thrust at him about his relations, and how they treat him. If others have suspicions of insanity in any case, the medical man should be slow to conclude that these are ill-founded. Much may hang on his decision. A renowned doctor said of an accused man that he saw no more insanity in him than in many people that walk the streets. Shortly after, the lunatic in question, without the shadow of provocation, murdered one of the foremost asylum superintendents Canada has known.

One is not expected to make a diagnosis of the form of insanity, but to set forth only such facts as will carry conviction to whoever may read them that the case is suited for confinement. The physician did not think of this who wrote, "He

is suffering from some mental derangement, which at the present time I can't easily diagnose." Modest, indeed, but very weak for a certificate.

To obtain facts on which to base an opinion, one should proceed in a methodical manner. Eye and ear should both be alert. The proof may have to be founded on a number of trivial discrepancies, any one of which would not justify a conclusion, but collectively might form weighty evidence. That practitioner is not blameless who delays making out a certificate till he finds proof of mental unsoundness in some outrageous act. In most cases he will look in vain for an exhibition of that "demoniac frenzy" which the populace attribute to every madman. The lunatic may superficially resemble his fellow-mortals, as did Shylock's Jew the Christian.

Without particularizing, one should observe carefully three things—the patient's appearance, his acts and his conversation. Mind can only be known as portrayed in conduct. Be not satisfied with one symptom; it is a weak certificate that hangs on a single statement. But such are commonly seen. Delusions and hallucinations should be sought for in all cases. They are not necessary to insanity, but if any are found, note them down as lucidly as possible, for nothing carries more weight with the legal fraternity. We must not snatch at statements haphazard, and call them delusions. Probable things may be delusions, and highly improbable things may not be. Thus, the certificate, "He says he is poor, he is financially ruined," was valueless in the case it referred to, because it was true the man's business had failed. But perhaps it was a modern failure.

It is always well to add, after stating a delusion, some such words as, "which is contrary to fact," or, "which I know to be false." This will not be necessary, of course, when a man says he is the devil; but when he is certified insane because he declares himself a poet, this needs qualification, for all poets are not insane, though genius and insanity may be allied. Perhaps this is not a fair example, for doctors may differ in their estimation of a poet; but supposing a man declares him-

self wealthy, when he is known not to be, this should be stated to be a delusion, for not a few men are rich. Hallucinations of hearing should be mentioned, if they exist, as a warning to others, for often the "voices" incite to crime. Any facts, indeed, that may serve as a guide to treatment should be detailed. Incoherence in speech is frequently noted, but it is a relative symptom, and would denote greater aberration in a scholarly man than in the uneducated. We must always remember that what points to mental disease in one may not in another; thus, the use of "perverted theological expressions" and obscene language might not arouse suspicion coming from the mouth of a heroine of the slums, but would suggest doubts of the sanity of a refined woman who indulges in them. Loss of memory is also a symptom that means more in youth than age, when the faculties naturally decline. If, after all efforts, the patient cannot be made to express himself, his taciturnity is not valueless. As a last resort, we may tell the man why he is undergoing examination. If he still maintains obstinate silence, this negative evidence is almost proof positive of insanity.

Having acquired all the information possible from the examination on which to ground an opinion, one may then cite any derived from previous acquaintance with the patient. Next may be inserted, in corroboration, facts ascertained from others, and it is always well to name your informant. Whatever you write down, assert only facts which you have elicited by searching enquiry. While conspiracies to incarcerate the sane are almost matters of history, yet the day may come when you will have to defend your statements, and this should engender caution. The most obvious case may prove the most troublesome. The long-headed practitioner will copy his certificate, and retain some fuller notes. These, to be of service, must be made at the period of examination. A certificate will be strengthened in proportion to the care shown in its construction. The facts should be written clearly, tersely and without comment. Make use of the patient's very words, if pertinent. Poor composition suggests negligence. Irrelevant sentences only weaken. Thus, the proof of a woman's insanity in a certain certificate grounded

on, " 1st. Frequent births, 2nd. Close confinement to children," is not to the point; in short, is simply absurd as it stands. Statements that prove sanity ought to be omitted. Yet, frequently we see such phrases as, " He has no delusions," " He is not dangerous," " Talks quickly, but sanely," " Otherwise her mind is clear." Some facts are ridiculous, and to be avoided, *e.g.*, where a man is adjudged insane because of his " repeating poetry now and again," or " praying and singing hymns frequently." On such grounds the whole Salvation Army might be " run in." Perhaps the climax was reached in the certificate wherein the only fact alleged to prove unsound mind was, " He tells lies." Needless to say, this was not accepted as substantial ground.

The most common failing in medical certificates is setting down deductions without enumerating any facts on which they are based. These fall far short of the law's demands. For example, " Saw her at her home, and ascertained that she is insane," " Generally irrational in all her actions," " Perverted deportment and conversation." If the deportment had been described, and some conversation given, this skeleton would not be so apt to give the certifier trouble.

The form of history which accompanies the certificate should always have the supervision of the medical examiner, whether he signs it or not. While much of the information must be got from the relatives, still there are answers that should be moulded by a physician to be relevant. It may mean much in the treatment and prognosis of the case if the questions be conscientiously answered, to say nothing of their value as statistics. If more thoroughness were employed, there would be fewer " don't know's " and " can't say's " than now decorate this form, which often remains a blank, despite the use of ink. While all the questions are valuable, some of them are quite so, especially such as relate to when and how the disease manifested itself, and the number and nature of former attacks, if any. A correct reply to the query regarding suicide or homicide may save life. Yet, I have seen the doctor's certificate declare suicidal tendencies, and the question in the history of the same case as

to self-destruction answered with the much abused, but easily written, "No." Some description of the man as he was, in response to information sought as to habits of life, may bring out knowledge of inestimable worth, especially if it be shown there is now a departure from the normal in such matters as his affections, appetites, religion, temper and tastes.

Then there is the point as to heredity, about which such lies are told as must make the father of them hilarious. The friends cannot be trusted on this score. The doctor should quietly enquire from other sources as well, concerning the taint in the blood, and not only note insanity in the family, but also eccentricity, nervousness, and consanguinity in parents. Then, if you want the truth, as Clouston says, multiply what you get by two. It is well, also, to delve deeply to get at the cause of the trouble. The patient's friends seem to be rarely cognizant of it, for there is nothing about which the asylum physician is oftener asked by them, and he is the last one to come to, not having known the patient's life till he has crossed the hospital threshold. It may not be far to seek, however, if any hereditary blight exist, for very little will unbalance the predisposed. Do not snatch at effect for cause, as is too often done, to the injury of character. Masturbation and intemperate indulgence are more frequently the consequence of a diseased brain than physicians state.

One word more, and I have done. The general practitioner can do an incalculable amount of good for the cause of the insane if he gives proper counsel as to how the patient should be removed from home. I can't put it better than is done by Dr. Burgess in the advice he gives to those who seek admission for some friend to the hospital at Verdun :—

"In bringing a patient to the hospital, use force if necessary, but never deception, as it lessens the chances of cure by making him look upon the institution with dislike, and those in charge of it as alone responsible for his being kept there. Tell the patient frankly that physician and friends consider him *sick*, and that it is proposed to take him to a *hospital*, where his chances of being cured are of the best, and whence he will be taken out again as soon as well."

In these desultory sentences there have doubtless been pronounced numerous platitudes. The apology therefor is that the purport of this paper was to recall such fundamental teachings as each one of us should have imbibed from our Alma Mater before we were weaned, and which are so often forgotten, to the detriment of the insane.

It were more fitting, perhaps, in this jubilee year of the inauguration of asylums in Canada, that this Association should have been occupied with a retrospect of the semi-centennial period, a subject, however, within the province of the Nestor of the Dominion alienists, the oldest of McGill's living graduates, who still enjoys life in that city where he wrought so many reforms, whose benefits we are reaping.

Suffice it for me if from this reading there has dropped a hint that will revive any enthusiasm in those whose care has been styled the most noble branch of medicine. Suffice it if one word has been spoken that will lead to the better treatment and earlier restoration of some mind afflicted with the most distressing of ailments ere it must be said—

> "It is too late: the life of all his blood
> Is touched corruptibly, and his pure brain
> Doth, by the idle comments that it makes,
> Foretell the ending of mortality."

THE OKANAGAN VALLEY, B. C., AS A HEALTH RESORT.*

By D. L. Beckingsale, M.D., Vernon, Okanagan.

The value of the Okanagan Valley as a health resort is scarcely known to the Canadian public, or even to the profession outside of British Columbia. This is no doubt to be in part attributable to its being isolated until within the last fifteen months from communication by railway with the outside world, when a branch line forming a junction with the main line of the C. P. R. at Siccamous was opened, the immediate result of which was the building of an excellent hotel at Vernon to accommodate the tourist and sport-seeking public; the climate, scenery, shooting of all kinds and fishing being undoubtedly the best in the Province. The elevation of the

* Read before the Canadian Medical Association, September, 1893.

Okanagon Valley, 1,250 feet, is sufficient to secure a dry, exhilarating climate, and although the mountains are very much in evidence, still the width of the valley is considerable, which prevents any feeling of being shut in from the world oppressing the resident or visitor. Canada's Governor, Lord Aberdeen, showed his appreciation of its many attractions by buying two extensive ranches in it some 35 miles apart from each other; as a tribute to the favourable climatic conditions he has planted a large acreage with the choicer kinds of fruit and hops.

A special feature of the district is the number and beauty of the lakes; Mara, Swan. Okanagan and Long Lakes have each their special attraction. The Okanagan is traversed daily by steamers, of which the Aberdeen is equal to any in eastern waters for convenience and comfort.

A peculiarity of the valley is the varying rainfall and average temperature within a short distance; thus proceeding from north to south the rainfall is considerably heavier and the seasons later at Enderly than at Vernon, 26 miles south, and at Vernon than at Mission, 36 miles south of Vernon, and the Mission climate again is drier and later than is the country to the south of it. The difference in the rainfall and seasons is not to be accounted for by the slight difference in latitude and altitude, but to local conditions, determined chiefly by the configuration of the land. The same conditions are found in the lateral valleys running east and west from the main valley. The advantages of these varying climates within easy reach is sufficiently obvious. The Okanagan Valley is almost entirely free from the winds and dust which prevail, more or less, in other parts of the upper country of British Columbia, thus rendering life more pleasant alike to the resident and the health seeker.

Meteorological observations have only been taken since the beginning of the year, which has been characterized by an exceptionally severe winter all over the Province Speaking generally of the observations for the present year, the snow has never been more than a foot deep on the level ground and always dry. The actual snowfall is greater than this, but an occasional Chinook wind will remove several inches of snow in a few hours, leaving very little moisture. The winters are

sharp but pleasant, the dryness of the air causes the frost to be but little felt, they are much less severe than those of Manitoba and the North-West.

During January the reading of the thermometer ranged from 52° during the prevalence of a Chinook to 17° at 7 a.m.; 10° to 12° of frost was the average of the day temperature throughout January and February, but with occasional dips to a lower temperature, even to below zero; at night these low temperatures were naturally more prevalent. During March the temperature was rarely below the freezing point through the middle of the day; often during the winter a thermometer hung on a sunny day under a veranhah with a southern aspect would record a summer temperature, while no perceptible thaw was noticeable outside. This peculiarity renders the climate specially suitable for invalids. Under the combined influence of Chinook winds and warm rains the snow quickly disappears in March.

The summers are characterized by hot days, frequently ranging between 80° and 90° in the shade, but the heat is never sultry and the evenings and nights always cool. A feature in the climate of especial value in phthisical and bronchial cases is the dense growth of pines with which the mountains on all sides are covered. This forest growth extends for hundreds of miles, and the result must be the impregnation of the air with those conditions from the conifers which have been so extensively adopted in the treatment of these diseases of late years.

This brief sketch of the country and climate will suffice to show that the Okanagan Valley is peculiarly well suited for that large class of cases with bronchial and phthisical trouble who are now sent to such climates as Colorado, the high Alps, Algeria and other bracing climates; and it is suited not to such cases only, but to all those requiring a bracing climate amid pleasant surroundings and with the advantages of a good hotel, who are recovering from debilitating diseases, especially from malarial fevers, and from all those complaints incident to overwork and worry.

As far as I have been able to learn no case of phthisis has originated among the white population of the Okanagan country, and is much less frequent among the Indian popula-

tion than in other parts of the Province. It was unknown among the Indians until they adopted sufficient of the modes of life of the whites to enervate themselves, chief among these may be mentioned their habit of over-heating their houses with stoves, which they use in place of the large open hearth formerly in use, and then standing listlessly about outside without putting on additional clothing, when there must often be a difference of from 50° to 60° between the inside and outside temperatures.

Among the several who have benefited by this climate may be mentioned a medical practitioner from the State of New York, but with Canadian qualifications, who came less than three months ago, then having phthisical symptoms and appearance, and who also had lost several near relatives from phthisis, a brother and sister as well as wife having died within the year. He has now lost all symptoms, has increased considerably in weight, and has determined to remain and live in the valley in the future, although owing to competition he does not expect to do as well professionally as elsewhere. Even cases of advanced phthisis, with all the appearances and signs of having cavities in the lungs, have had their lives prolonged beyond all reasonable expectation. While the advantages of the Okanagan climate are well known and appreciated in the coast cities of the Province, they are scarcely known outside its limits as they deserve to be; probably a greater tribute of appreciation could not be paid any climate than is paid to this from the fact of persons coming from Manitoba and the North-West to escape the rigors of the winter, and from the coast to escape the excessive wet, to settle in the Okanagan Valley.

The shortness of the time at my disposal must be my apology for this meagre sketch of a district which will be as well known as a health resort in the near future as any on the continent.

Retrospect Department.

QUARTERLY RETROSPECT OF SURGERY.

By Francis J. Shepherd, M.D., C.M., M.R.C.S., Eng.
Surgeon to the Montreal General Hospital; Professor of Anatomy and Lecturer on Operative Surgery, McGill University.

Surgical Treatment of Mastoid Disease and its Complications.—Prof. William Macewen, in opening this discussion at the meeting of the British Medical Association, held in August, 1893 (*Brit. Med. Jour.*, Sept. 9, 1893), said that in the majority of cases of infective diseases of the mastoid region, the infection travelled from the middle ear to the mastoid antrum and cells, and that it invaded, after destruction of the mucous membrane, the bone and dura mater and other membranes of the brain. In speaking of the proper place of operation, he said this was the suprameatal triangle. Here we could always reach the mastoid antrum, and could be free of the sigmoid sinus, and if only the upper and outer part was opened, the canal of the facial nerve, which lay on the floor of the passage between the antrum and middle ear, was avoided. After exposing the roof of the antrum, the ossicles were removed, and if there was an erosion the roof was fully opened up, granulation tissue removed from the dura mater, and the brain laid bare, and if necessary opened into. Abscess in the brain could be tapped in this region, but it must also be opened from above to remove sloughs of cerebral tissue, which could not otherwise come away. Where disease had spread to the sigmoid sinus, it was likewise dealt with. In all cases it was necessary to remove the focus of infective matter in the bone. In cases of infective thrombosis of the sigmoid sinus, he preferred to lay the sinus fully open, to turn out the contents, to separate the outer wall of the sinus, and to involute this membrane upon the inner wall of the sinus itself, retaining it in position by abundant powder of iodoform and boracic acid, and also by iodoform gauze. He preferred this method to ligaturing the internal jugular, because this did not wholly prevent the infective matter from getting into the lungs as it passed by the

large veins at the base of the skull from the interior and posterior condylar foramina, and so into the vertebral and subclavian. In cases where the internal jugular was involved, then he advised ligaturing, after all the infected tissue, bone, membrane, and vein, was removed. Prof. Macewen packs the part with gauze, and allows it to heal by granulation. He has operated in 80 cases of mastoid disease alone, and in those where the disease had been obliterated by operation he found a permanent cure resulting, but in those where the disease had spread into the petrous portion it was necessary to keep a permanent opening, which continued to discharge. In speaking of the complication of meningitis, in such cases at first he doubted the propriety of operating, but now does not hesitate to perform the operation, and in many with excellent results. In cerebral abscess there was no difficulty in performing the operation. It was a most satisfactory operation, because it was urgently required.

Mr. Victor Horsley said that his experience in these cases coincided with almost everything Prof. Macewen had advanced. He would, therefore, speak on other points. For instance, in cases of simple *otitis media purulenta*, how long should antiseptic treatment be undertaken before the radical operation of clearing the tympanum and mastoid was undertaken? He suggested that one year would be a convenient limit, and that if the granulations had not subsided and if cicatrization did not occur within that period, the mastoid antrum should be laid open and the opening continued into the tympanum, so as to make one space of both cavities. In this way grave risks were avoided. As the operation was without risk, the question of hearing only was involved. This was already disordered, and he found after operation it often improved, often became perfectly normal and occasionally diminished to a slight degree. In cases of plugging of the sigmoid sinus, he advocated ligaturing the jugular vein, and believed Prof. Macewen's objections had no foundation, as was proved by the brilliant results of Messrs. Ballance and Lane.

Symptoms and Treatment of Septic Infection of the Lateral

Sinus, as Illustrated by Ten Cases.—Mr. Arbuthnot Lane read this paper before the last meeting of the British Medical Association August, 1893. (*Brit. Med. Jour.*, Sept 9, 1893.) From his great experience he arrives at the following conclusions: (1) That septic infection of the lateral sinus is always due to the extension of an inflammatory process from an abscess between the bone and dura mater, through the wall of the sinus, and, therefore, the symptoms of subdural abscess precede this infection.

(2) It is not easy to distinguish between subdural abscess and simple involvement of the dura mater, both having deep-seated pain and headache radiating from point of inflammation. In such cases the patient always received relief from operation, as one is merely a forerunner of the other.

(3) Subdural abscess may cause death by producing suppurative arachnitis, and by infecting the lateral sinus, pyæmia may result. The abscess often discharges itself through the antrum, tympanum, meatus, etc., but in every case, even if this takes place, opening of the antrum should be practised.

(4) In large subdural abscesses, besides the presence of deep-seated pain and radiating unilateral headache, there may be varying degress of arachnitis. When the dura mater is inflamed, we have often neuritis; the degree of pain bears a direct relation to the degree of inflammation and its extent.

(5) The mastoid is not always tender in subdural abscess, especially in those cases where there are no mastoid cells, but in these cases, if the mastoid be sharply tapped with a pleximeter, pain and tenderness is at once felt.

(6) The infection of the lateral sinus depends on the situation of the subdural abscess. If in the posterior fossa, it may not be over the sinus at all. It rarely follows a first attack of inflammation of the middle ear.

(7) The symptoms of infection of the lateral sinus are in addition to those of subdural abscess. They consist solely of irregular, rapid fluctuations of temperature, and very often amounting to a well-marked rigor, though not always so.

(8) Secondary foci elsewhere are not necessarily accom-

panied by actual thrombosis, severe inflammation of the wall of the sinus, causing only an opacity of the interior, may be sufficient to produce secondary foci.

(9) Septic thrombosis often goes on unnoticed until too late, mastoid tenderness and swelling not being a necessary accompaniment. It would seem that the less extensive the thrombosis the more virulent are the symptoms of septic infection.

(10) Ligature of the vein and sinus in septic infection, apparently without thrombosis, may not stop the progress of secondary foci, even though coagulation takes place in the sinus, and this is owing to the extension of the septic process along the petrosal sinus to the cavernous sinus.

(11) When extensive thrombosis exists, it does not seem necessary to remove the whole proximal and distal portions of the clot.

(12) The presence of secondary foci does not preclude the chance of recovery, provided the supply of septic emboli be stopped.

(13) However advisable it may seem to ligature the internal jugular vein beyond the limit of the thrombosis, there is no evidence to prove that the complete removal of the distal portion of the clot is necessary or that leaving it will injure the patient.

(14) In spite of the variations in the activity and characters of the conditions which result from septic infection of the lateral sinus, it would seem that the most scientific and certain measure to adopt, in every case, is, after opening the antrum, which is a necessary antecedent of every operation of this sort, ligaturing the internal jugular vein and clearing out the subdural abscess, to remove as much as possible of the proximal portion of the clot, then the whole distal portion, or, if there be no thrombosis, to slit up the sinus beyond the limits of the abscess wall and plug it with gauze and iodoform. Mr. Lane reports ten cases with two deaths—a most admirable result.

Mr. Hugh E. Jones said that Mr. Ballance, in a paper written on this subject (*Lancet*, 1, 1890) some time ago, held that it was very unlikely mischief would extend from one lateral sinus to the other, but Dr. Newton Pitt had collected 22 cases.

In 4 the clot extended into the longitudinal sinus, in 3 into the opposite lateral sinus, and in one case into all the sinuses. Mr. Jones reported a case where there was partial occlusion of the torcular Herophili. He saidthe question, therefore, presented itself, Is it worth while to cut off one avenue for the extension of the mischief, whilst another, quite as open, remains unclosed ? Mr. Jones' plan is: (1) Expose the sinus as near as possible to its junction with the torcular, compress it there so as to control the hemorrhage completely; (2) Clear the septic clot in the usual way; (3) Scrape out the whole of the interior from the compress to the sigmoid flexure of the sinus, and plug with antiseptic gauze.

The papers and discussion on Mastoid Disease and its complications are most interesting, and are of great value. Many cases are left to die unrecognized, and others, although recognized, are relieved too late. Such cases usually in this country come under the care of specialists, and perhaps it would be as well, after the antrum had been opened and the disease still progressed, going on to brain abscess and septic infection of the lateral sinus, that the general surgeon should be called in. Perhaps it would be better that in all acute cases the surgeon should be associated with the specialist from the first. Mr. Horsley's suggestion that if, after a year's treatment, the suppurative middle ear disease still continued, then the antrum should be opened and the diseased structures removed, is a most excellent one and should be made a note of by otologists.

Surgical Treatment of Cerebral Tumours.—At the meeting of the British Medical Association above referred to, Mr. Victor Horsley, in opening the discussion on cerebral tumours (*Lancet*, Aug. 12, 1893), spoke first of the treatment of the patient previous to operation; secondly, of the objects for which surgical interference should be undertaken; and thirdly, of some fresh points in the technique of the operation. In many cases there was great obscurity, and the existence of a cerebral tumour was overlooked; in other cases there were grounds for suspecting the existence of a tumour. No one would operate in any case unless there was reasonable localization of symptoms, divided

into those of over-action, such as contraction of muscles, exaltation or perversion of sensation, and want of action, such as progressive motor and sensory paralysis. Three symptoms had been called cardinal symptoms, viz., optic neuritis, headache, and vomiting; but one or more of these cardinal symptoms might be absent, and the surgeon must not wait for them before operating. The leading feature for guidance, Mr. Horsley thought, was the progressive character of the symptoms. Treatment by drugs should not be prolonged beyond six weeks, unless there was a striking improvement. The only cases susceptible of undergoing cure were those of gumma and tubercle. He insisted on the necessity of employing surgery, not as a *dernier ressort*, but as a primary means of cure. With regard to the second point, the objects of surgical interference were the removal and cure of the neoplasm. Glioma and glio-sarcoma were distinguished by their liability to recurrence, and in advanced cases he had frequently declined to operate. Most cases recur, but life is prolonged by removing those recurrences. Even if it were impossible to remove the tumour, it was possible to relieve the symptoms. By opening the skull the agonizing headache could be removed, and optic neuritis and atrophy might disappear, and vomiting would cease with the headache; convulsions might be mitigated. But the operation might produce loss of power, this, however, would be more than counterbalanced by the advantages mentioned. As to the third point, as to the best method of opening the skull. It had been observed that where positive cranial tension already existed, the mere pressure of the trephine might produce immediate failure of the heart's action. It was, therefore, important to remove bone without pressure, and this could be done by a saw running at a great pace. He had given up the circular saw, and showed a linear cutting instrument. The only drawback was the vibration due to the velocity. He objected to the osteoplastic method of raising a flap of bone. It was not a good method in the interests of the patient. From close observation in adult and child, he was sure that the pericranium has no osteogenic power, and consequently it was of no moment whether it was retained

in contact with the bone or not. In cases where the dura mater had been affected, it had to be cut away, and it was not possible to replace the bone. Where bone was to be replaced, the practice of American surgeons of returning large portions of it should be followed, and it should not be cut into small pieces. In certain cases, tamponing the wound in the brain, as recommended by Bergmann, might be of great service. Fatal shock might be prevented by dividing the operation into two stages, the bone being removed at one operation, and at a second one, performed after a few days' interval, the dura mater might be opened and the tumour removed.

Prof. Macewen agreed with Prof. Horsley on the great advantages to be derived from palliative operations. The two areas of the cerebellum had been freely opened by him, with great relief, absolutely regarding pain, and, to a great extent, the paralysis. With regard to the reimplantation of bone, he reimplanted the whole bone if it was from a young subject, but if from an older person the bone required to be detached into smaller portions, as if one part was not well nourished, grave mischief resulted in attempting to remove the diseased part.

Intestinal Obstruction.—At the meeting of the British Association, Mr. Page (*Lancet*, Aug. 12th, 1893) opened a discussion on the above subject. By acute obstruction he meant "total arrest of the passage of fæces and flatus." In strangulated hernia the treatment is obvious, and herniotomy is successful in proportion to its early performance, and he said great damage was often done by taxis. When no hernia can be found, the seat of the hernia must be within the abdomen, and treatment must be similar. It is not always possible to say that the symptoms are due to strangulation or to some acute inflammatory process due to suppuration, gall bladder, peritonitis, or typhlitis. To treat the acute inflammatory attack by taxis and repeated injections of air and fluid would lead to disaster. Mechanical obstruction or perforation are best treated by abdominal section, and it is impossible often to tell the cause of obstruction or peritonitis without opening the abdomen, and the earlier the operation is done the better the chance of success.

Mr. Hutchinson spoke in favor of taxis in hernia and intestinal obstruction, and after taxis for hernia recovery was the rule. Operation was attended by risk, and the opening of the sac in hernia had a special risk. No comparison could be made between herniotomy and opening the sac and opening the peritoneum in a healthy state. The inflamed sac of an inguinal hernia could not be laid open with impunity. In advocating taxis he was not apologizing for delay. The patient application of taxis was very different from delay, and if he applied ice he waited to see the effect. He used forcible taxis as much as his fingers permitted, but he used it carefully, steadying the neck of the scc until his hands were tired. He had then asked another surgeon to continue taxis, and had gone on tiring the hands of his surgical colleagues until the hernia was reduced. Acute intestinal obstruction could not be defined, and he objected to Mr. Page's definition of it. There was no one lesion that could be associated with any definite symptoms, and though there were a few cases in which operation might be necessary, yet they were so mixed in their symptoms, and they were so indistinguishable, that he thought it wise to let the few cases go. The risk was far greater if the abdomen was opened. His point was to try abdominal taxis thoroughly, and he could mention a dozen cases where success followed this method of treatment.

His plan was to give chloroform and hold the patient up by the legs, and to shake him to give him enemata, and to push the intestines from side to side vigourously. He stated that there were many cases of intestinal obstruction, whether band or twist, where the bowel might be replaced by abdominal taxis. In the London Hospital he did not know of more than a single case in which laparotomy had been successful. If abdominal taxis failed, he thought the chance of patient was much better if abdominal section was not undertaken.

Mr. Morison objected to Mr. Hutchinson's doctrines and practice. He did not attempt taxis, but performed immediate herniotomy. Of 100 cases of herniotomy, only one died of peritonitis.

Mr. Rivington thought that Mr. Hutchinson altogether undervalued the operation of abdominal section. The fact that operations were not successful in the London Hospital was that they were performed too late. The cases often did not come under the surgeon's care until the time had passed when a successful issue might have been expected from operation. He fully recognized the value of manipulation, and had relieved several cases by kneading the abdomen under chloroform and by enemata. Operation ought to be performed within the first 24 hours. If taxis and enemata failed, the surgeon should proceed to operate without delay. When a number of cases of operation within 24 hours are put on record, it would be fair to compare the results with those obtained by abdominal taxis and delay.

Dr. Newman said that two years ago, in Glasgow, there was a similar discussion, with equal diversity of opinion, but the conclusion arrived at was that patients with intestinal obstruction should be admitted into the surgical wards. He had made many necropies as pathologist for 10 years, and had never met a case in which the operation had caused the death of a patient. The abdomen might be safely opened to make a diagnosis, and the advantages of early operation were shown well in reference to the surgery of the kidney. His experience from the post mortem table was that more cases died from the want of operation than from the operation itself.

It seems strange to hear at this time a discussion taking place as to the advisability or not of abdominal section in cases of intestinal obstruction. On this side of the Atlantic it is regarded as ordinary practice, and the only trouble is that surgeons, as a rule, get the cases too late, or operation is refused until the patient is *in extremis*. As time goes on, these cases from the first will be treated surgically, and the public will be educated to the fact that the operation is always performed in the best interests of the patient, and will offer no further objections to early exploratory incision. At present, in a case of strangulated hernia, the surgeon is called in from the first, and the patient and friends not only do not

object, but seek operation. So should it be in acute intestinal obstruction.

Infectious Appendicitis.—Dr. Robert T. Morris, of New York, in a most interesting paper on the above subject, read before the Pan-American Medical Congress (Annals of Surgery, October, 1893), says that Appendicitis is an infectious exudative inflammation of the appendix vermiformis cæci, originating in any local cause for displacement of the secondary epithelium of the mucosa of the appendix, and progressing by bacterial invasion into the rich layer of adenoid tissue, which is under compression. Bacteria once having penetrated the adenoid tissue, remain there and develop for an indefinite time with widely varying degress of rapidity. The natural course of the inflammation is protracted, and marked by slow erosion of the mucosa and adenoid tissue, caused by the pressure of exudates amd infiltrates. A more rapid destructive process follows, passive choking of the inner tube within the outer, when exudation into the adenoid tissue is excessive. The most rapid destructive process occurs when the muscular sheath, irritated to the point of spasm, contracts firmly down upon the swollen inner tube. Incidents in the course of the disease are: (1) Infection along the lymph channels from the appendix to the colon, causing typhlitis, perityphlitis, paratyphlitis, and cæcitis. (2) Extension of thrombosis along the veins of the appendix, resulting in mesentric thrombo-phlebitis, pyle-phlebitis, portal embolism, and abscess of the liver. (3) Local peritonitis from direct infection of peritoneal investment of the appendix. (4) General peritonitis from infectious thrombi in the veins of the portal system, and from poisoned peritoneal exudates. (5) Local abscesses in sub-peritoneal connective tissue. The layer of epithelium which guards the adenoid layer against infection is easily injured by foreign bodies or fæcal concretions, especially when violent exercise or a blow causes forcible impact of the mucosa against such bodies. Dr. Morris believes many acute attacks of appendicitis follow the efforts of parturition. Wherever the mucosa is injured this is likely to occur. Thus it is occasionally a complication of typhoid fever or dysentery

or cholera. The epithelinm of the mucosa of the appendix being once destroyed, infection and necrosis are always possible and imminent, though the process might take years to develop. The outside of the appendix may be normal in appearance, when its mucous membrane is necrosed. When the peritoneum becomes affected, there is a process of suppuration, with fallling off of infectious products, then bacterial changes, and finally perforation and general peritonitis. The most painful cases, as well as the most severe, are those in which there is a spasm of the muscular coat. The "exudates in the tissues being crowded" to the end, the appendix has a bulbous appearance. In cases where the exudate is over the iliac arteries the pain is also great, owing to the strong pulsation of these vessels. If, in addition to this, the large nerves of the pelvis respond to irritation with neuralgia, the condition of the patient is deplorable. Infection from the appendix to the walls of the cæcum and colon, in mild cases, may cause a constipation from inhibition of peristalsis, or a diarrhœa from the irritation of ptomaines. The infection may be so insidious as to cause perforating necrosis of the colon several inches away from the appendix, when the appendix is outwardly perfectly normal. There is apt to be an area of thrombosed veins, however, extending between the bowel and the necrotic area. This involvement of the neighbouring parts has been variously named typhlitis, perityphlitis, etc., but in all such cases the focus of infection can be traced to the appendix. Bilious vomiting is not always present in appendicitis, but in all acute cases is characteristic of reversed peristaltic action. Dr. Morris classifies four kinds of relapsing appendicitis. (1) Cases in which the poisoned peritonæum of the appendix responds in various mild exacerbations of local peritonitis. Colic is not a marked feature of these cases, and the septic symptoms are not important. (2) Cases in which the muscular coat of the appendix is excited to the point of spasm from time to time. Colic is the most salient symptom, but septicæmia is not severe or persistent. (3) Cases in which small or larger portions of the inner tube slough and cause marked septicæmia, until the sloughs have decomposed enough to escape

into the bowel. (4 Cases in which a chronic abscess cavity fills in exacerbation, and empties by slow absorption at irregular intervals, and where persistent septicæmia is the chief symptom. In all cases of infectious character, operation should be early. In the simplest cases, an incision only one inch and a half long, following the line of the aponeurosis of the external oblique muscle, was required. The anterior longitudinal band of the colon should be looked for and followed to the appendix, which latter should be drawn out, and the mesentery tied with catgut. The outer tube is now stripped through with scissors, very close to the cæcum. The inner tube is then ligated with a strand of eye silk well down into the cæcum, and the stump of the inner tube cut short. The peritonæum around the stump is scarified until pink serum exudes, and then closed over the stump with three or four Lembert sutures of catgut. If the ligature escapes, it will go into the lumen of the bowel, and give no further trouble. The wound of the abdominal wall is closed with silkworm gut sutures, which include peritonæum, transversalis fascia and transversalis and internal oblique aponeurosis, the knots being cut short, to remain permanently. The external oblique aponeurosis must have its own row of sutures, and the skin closed with very fine catgut. In severe cases a larger incision is necessary, the patient in such cases being in the Trendellenburg position. In the severest cases, with abscess and extensive induration, the incision should be four inches and a half long, and the cavity should be cleansed with saline solution and peroxide of hydrogen, and then packed with gauze.

Dr. Morris reports 48 cases, with four deaths in cases where there was a large amount of exudate and pus. In all cases, even where the adhesions are extensive, Dr. Morris advocates separation and removal of the origin of the disease, the appendix.

I have made an extensive abstract of Dr. Morris paper, on account of its suggestiveness, and although not agreeing with him in every point, still his paper affords much material for thought, and throws much new light on the more chronic and milder forms of the disease. The pathology is almost too good

to be true, and fits most exactly into the symptoms and lesions for which an explanation is sought.

Radical Cure of Hernia by the Implantation of Bone.—Thiriar, in *Le Mercredi Médical*, May 24th, 1893, describes his method of radical cure for hernia by the implantation of a decalcified plate of bone. After carefully isolating the sac to above the internal ring, he then ligates and resects it. On being released the stump disappears within the abdomen. Between the peritonæum and abdominal wall a plate of decalcified bone is inserted; this is held in place by the sutures which pass through the edge of the orifice and unite the pillars. The size of this plate is larger than that of the opening, and varies from 3–5 c. m. long, the same in breadth, and 8–12 m. m. in thickness. The canal is closed with catgut sutures, and then the edges of the skin wound brought together, and drainage put in or not. The author has practised this operation 25 times in the last eight months, and has as yet no relapses. In one of his earlier cases the plate was discharged in 15 days one-third the size; the patient, notwithstanding, was cured and remains so. The author claims that as the plate disappears, it is gradually replaced by cicatricial or fibrous tissue which effectually plugs the opening and prevents recurrence (quoted in *Univ. Med. Mag.*, Sept., 1893). This operation is not likely to prove one that will take a permanent place in the radical cure of hernia, for, cicatricial tissue has been proved conclusively to be gradually absorbed and not to be depended upon to prevent recurrence of hernia. The time elapsed (eight months in the oldest cases) is too short to enable the author to pronounce such a decided opinion as to the value of his operation.

Gangrene in Strangulated Hernia—Resection versus Anus Præternaturalis.—Conclusions from Cases.—H. P. Zeidler, of St. Petersburg, has treated this subject in an exhaustive manner. (*Centralblatt f. Chirurgie*, January 23rd, 1893.) The paper gives the histories of 289 cases in which primary resection was performed for strangulated hernia, and 287 where an artificial anus was made. In the first group 142 (49½ p.c.) died, and in the second 213 (74.22 p.c.). From the first

series 20 cases and from the second 74 cases are excluded, because definite cause of death was not stated, and the result is that in the first group of cases (resection) 25.65 p.c. died from causes independent of the operation, and 28.64 p.c. in the second group (artificial anus). Death due to resection directly occurred in 19.66 p.c.: due to formation of anus præternaturalis, 36.65 p.c.

A contra-indication to primary resection is the presence of diffuse peritonitis, especially when combined with collapse. If collapse is absent, resection is not absolutely contra-indicated. The greatest danger in resection is the occurrence of gangrene of the sutured intestine; the next greatest is peritonitis, due to infection of the sac. The sutures in resection should always go through healthy tissue, and unless the condition of the patient is very good, a radical cure should not be attempted.

In the formation of an artificial anus nearly all the dangers exist which are present in primary resection, and, also, in addition, certain dangers which are absent from the latter. The only advantages are shortness of operation and rapid and complete emptying of the intestine. This operation can be made use of temporarily, since Riedel has shown that the anus præternaturalis can be closed after a day or so by an early secondary resection, namely, in such cases where primary resection is contra-indicated on account of severe collapse, or on account of the impossibility of placing the sutures in entirely sound tissues where the gangrene is not absolutely determined. The formation of artificial anus as an exclusive treatment of gangrenous hernia should be given up.—(Condensed from the *Annals of Surgery*, Sept., 1893).

Hernia of the Vermiform Appendix.—A Report of 41 *Cases.*—Dr. Briege, of Breslau, has collected a series of 41 cases, 20 inguinal, 15 femoral, and 16 variety not stated. In 26 cases operation was performed; 16 cases were entirely cured, two were cured, but had a fistulous opening remaining, five died, and in three the result is not stated. From a study of these cases, Dr. Briege comes to the following conclusions:—

(1) Hernia of appendix vermiformis is more frequent than is generally accepted.

(2) It is impossible to diagnose with certainty a hernia of the appendix. Where there are present the symptoms of an incarcerated hernia in the right inguinal or femoral region, one should think of the possibility also of a hernia of the appendix.

(3) A hernia of the appendix may produce more or less severe complications, inasmuch as the appendix is so frequently the seat of pathological processes.

(4) This form of hernia demands early operative interference, because of the threatened complications which may arise from the appendix.

(5) This operation must, almost without exception, consist of resection of the appendix. The appendix must not be returned unless absolutely normal.—(*Archiv. fur Klin. Chir.*, Bd. xlv., Hft. 4. Quoted in *Annals of Surgery*, Sept., 1893).

I have seen only one case of strangulated hernia which included the appendix, and in this the symptoms were most urgent, the pain being especially severe. I operated within eight hours of the onset of the symptoms, and found in the inguinal canal a piece of small bowel and an appendix much swollen and congested from constriction. The bowel was of rather dark color. Both structures were returned, and the case did well. This was six years ago, and the patient, when seen recently, had no return of the hernia, the cure being radical, although the only operation was simply cutting off the sac and closing the external wound.

Extirpation of a Tumour of the Liver.—Bergmann says (*Verhand. der Deutsch Gesell. f. Chir.*, XXII. Kongress, 1893) most operations on the liver are done for echinococcus, in which a portion of the liver can rarely be removed. Langenbuch removed a lobe in 1888, with good results. Syphiloma of the liver is most frequently the excuse for removing a portion of the organ. In the early part of last year Von Eiselsberg removed a large carcinoma of the liver. In a case of carcinoma of the gall-bladder, Hochenberg removed the disease with the neighbouring portion of the liver. The largest tumour of the liver ever operated upon with good result was by Lücke.

The tumour operated on by Bergmann was a round, very movable mass, situated on a level with the umbilicus, in the middle line. It seemed to be in connection with the liver, and presented symptoms of an echinococcus of that organ. It was small and of uniform consistency, and liver brown in colour. It was easily drawn through the wound, and was found attached to the liver by a pedicle 10 c m. long and 4 c.m. thick. The pedicle was cut off, the larger vessels ligated, and the remaining controlled by sponge pressure. The tumour was found to be a "tubulous gland adenoma," a variety of tumour closely allied to primary liver carcinoma and the hyperplastic adenoma. —(Quoted in *Annals of Surgery*, Nov., 1893).

Laparotomy for Perforating Ulcer of the Stomach.—Kriege (*Berlin Klin. Woch*, No. 49-50, 1892) reports the case of a man, aged 41, seized with collapse in the course of ulcer of the stomach, on whom he performed laparotomy. A median incision gave exit to some gas and some of the stomach contents. The intestines were slightly injected. A transverse incision was made, and the gastro hepatic omentum torn through, but the ulcer was not seen on either the front or back wall of the stomach. The incision was then prolonged to the right, and an opening the size of a pea found 3 c.m. from the cardiac orifice. It was closed with sutures, and gauze left in for drainage. Recovery was rapid, and patient was out of bed in 15 days. This operation had been done previously only seven times, without a single success, but in most of the cases there was marked peritonitis. In such cases early operation should be performed. The perforation will usually be found near the cardiac end. In the first few days after operation the patient should be fed entirely by the rectum, and morphia should be given to relieve pain.—(Quoted in *Univ. Med. Mag.*, Oct., 1893).

Barling (*Birmingham Med. Review*, Vol. XXIV., No. 181, p. 129) reports the successful treatment of a case of gastric ulcer, with perforation and peritonitis, by abdominal section. He had operated previously in two other cases unsuccessfully. The first case was one of latent gastric ulcer in a girl aged 22,

presenting symptoms of peritonitis. The abdomen was opened six hours after the onset of the acute manifestations. The source of the perforation could not be found at the operation, and death took place 24 hours later. The autopsy disclosed a perforating gastric ulcer in the anterior wall of the stomach, nearer the cardiac than the pyloric end of the stomach.

The second case occurred in a girl 20 years old, with a previous history of gastric ulcer. Symptoms of peritonitis developing suddenly, the possibility of perforation was considered, and the abdomen was opened. At about the middle of the anterior wall of the stomach an opening with indurated margin was found. Five Lembert's sutures were introduced, the abdomen flushed and then closed, a drain having been introduced. Death occurred 30 hours after the operation. The autopsy revealed well marked peritonitis, especially in and around the portal fissures, and about a pint of purulent fluid escaped from the abdomen. The anterior perforation was found to be closed effectively. A second ulcer which had almost perforated was found on the posterior wall.

The third ase occurred in a domestic 29 years old, who was suddenly seized with severe abdominal pains, vomiting and faintness. She had previously suffered from epigastric pain and vomiting, though she had never had hematemesis or melena. The acute symptoms had set in a day after the ingestion of a heavy meal with a feeling of something having given way in the abdomen. Peritonitis soon set in, and the diagnosis of perforation from gastric ulcer was made. Under appropriate treatment the girl did fairly well for a number of days, until pain was complained of in the left hypochondriac and lumbar regions, soon followed by swelling in the left hypochondrium. Under treatment the symptoms again subsided, but the condition of the patient appearing precarious, abdominal section was decided on. An incision was made over the swelling in the left hypochondrium, and a small abscess found behind the stomach and evacuated. The patient doing badly after the operation had been in progress ten minutes, a drainage tube was introduced into the abdominal cavity and the wound speedily

closed. Rather contrary to expectation, the case did well. Further progress was complicated by phlebitis in both legs, but recovery ultimately ensued.

The author recommends, before closing the perforation in the stomach, the passing of a drainage tube into the stomach through the orifice of perforation, and evacuating any fluid present, and afterwards the abdomen should be drained by two tubes, one placed *in situ* close to the perforation and the other introduced into the abdomen immediately above the pubes.—(*Med News*, Nov. 11th, 1893.)

Resection of the Rectum, with Transverse Separation of the Sacrum.—Levy proposed, more than three years ago, a method of resection of the rectum, the prominent features of which included the proposition to (1) Leave intact the lower or external anal sphincter; (2 To preserve the coccyx; (3) To avoid injury to the levator ani. He has recently modified this procedure as follows:—An arch-shaped incision is made through the skin and fascia, over the lower end of the sacrum. This is located a finger's breadth above the points of the cornua of the coccyx. Laterally it is continued upon either side to a point 5 c.m. from the tuberosity of the ischium and parallel to the course of the gluteus maximus. Below the fourth sacral foramen the incision is carried to the bone. The lateral muscular fibres are separated by a blunt dissector until the lateral edge of the great sacro-sciatic ligament is reached. This is carefully divided upon a grooved director. A chain saw is now introduced in front of the sacrum, a special elevator being used to separate the soft parts upon its anterior surface. The chain saw is passed between these bones. The flap of bone and skin is now drawn downwards, the coccygeus and sacro-sciatic ligaments being still further divided if necessary. The pudendo-hæorrhoidal and fourth sacral nerves are not injured by this procedure. In case an insufficient amount of space is afforded, the osteo-plastic flap may be divided longitudinally.—(*Berlin Klin. Woch*, No. 13, 1893. Quoted in *Annals of Surgery*, Oct., 1893).

In a letter to *Annals of Surgery*, Sept., 1893, on the

" *Priority of the Operation of Intra-Cranial Neurectomy*, Krause, of Altona, states he first performed the operation on Feb. 23rd, 1892. He has operated on five cases. His method of procedure is as follows: After making the flap of scalp and bone in the temporal region, the cranium is opened and the dura mater stripped from the base of the skull. The root of the arteria meningea media is next ligated and divided, and then the third and second divisions of the fifth nerve in their entire extent, from the foramina ovale and rotundum to the ganglion Gasserii, are freed. Next the dura mater is lifted back from the nerves with the elevator, and the nerves are lifted away from the underlying bone. This isolation is carried as far back as the ganglion itself, indeed until the ganglion is brought into view. The second and third divisions are now divided with a pointed tenotome at the foramina rotundum and ovale. The Gasserian ganglion is now seized transversely in its posterior part by Thiersh's nerve forceps. By careful twisting, the entire trifacial root is brought away. In all five cases recovery took place, and since then there has been no return of the pain.— *Annals of Surgery*).

Contribution to the Treatment of Cleft Palate.—Kuester has operated in 22 cases, of which 13 were females and 9 males, varying from $3\frac{1}{2}$ to 36 years. The last 10 patients were all cured by a single operation. He operates with the head down, using Langenbeck's method, and anæsthetizing the patient. He modifies the freshening of the edges, in that he pierces the middle of the uvula by a two-edged knife and forms a flap extending on both sides to the posterior border of the hard palate. In this manner the velum palati and the uvula are lengthened and broadened, so that they are easily applied to the bony surface. He avoids further cutting through the velum and severing the tensor palati, but rather does he incise the velum only so far as to cut the nasal mucous membrane with a button bistoury where it passes over into the soft palate from within outward. In applying the sutures to the uvula, a silk thread is passed through and held to act as a guide and to oppose tension. The whole operation took from one-half to

three-quarters of an hour. The sutures are painted with iodoform collodion, and a tamponade of iodoform mull employed in cases of profuse hæmorrhage, and then only for a few minutes. He rejects Wolff's method of making lateral incisions, with employment of silver wire sutures to relieve tension, as disadvantageous and favouring lateral defects. Daily irrigation of the nose is also unnecessary. The operation in two sittings is only justifiable in cases of very broad fissure. To avoid gangrene of the margins of the wound, he has used in several the tertiary silver wire suture. Healing of the wound can be much accelerated by painting it with tincture of cantharides. Speech training should precede the operation, and two cases treated thus succeeded in obtaining ideal speech. Out of the other seven, five had normal speech.

Kuester is of opinion that it is not advisable to operate as early as possible, for he does not consider it dangerous to life, and the nasal, pharyngeal and laryngeal catarrh which often complicate rapidly retrogress, even in later life. He looks upon the fifth to the seventh year as the most appropriate time to interfere.—(*Wiener Med. Presse*, No. 18, 1893. Quoted in *Annals of Surgery*, Aug., 1893).

Correspondence.

OUR LONDON LETTER.

To the Editors of The Montreal Medical Journal.

Dear Sirs,—An important and valuable addition to the facilities offered in London for the study of the various medical and surgical affections, in which the skin is chiefly concerned, has recently been made by Mr. Jonathan Hutchinson, in the form of a private museum. Having leased a large house at the top of Portland Place, he has built a considerable addition, and has here arranged his extensive collection of drawings and water colour sketches of the numerous interesting cases of skin disease that have come under his observation during a long life of practice, both in the London Hospital and in private. Here, amongst others, are many of the original pictures from which

the Sydenham Society's plates, so familiar to those who have paid special attention to this branch of medicine, are taken. Here, too, is being arranged by his secretary an extensive series of some two hundred volumes, each of which is to contain all the magazine articles and extracts for many years back of some one particular disease, so that each, it is hoped, will furnish an almost complete history of the affection of which it treats. This series will, as may be imagined, prove invaluable to anyone anxious to find out, rapidly and easily, the cases previously reported of any particular affection in which he may be interested, as well as the more important papers, articles, monographs, etc., referring to it. At the present time Mr. Hutchinson is giving here a weekly lecture, in connection with the post graduate course, now under way, on one or other of the subjects, such as lupus, syphilis, etc., to which he has so successfully devoted time and thought.

It was my good fortune to be present recently at a private exhibition of a series of microscopic slides, prepared in Dr. Unna's laboratory at Hamburg, and at present on their way to Paris, where they will doubtless be criticized by the members of the Dermatological Society, to whom they will be shown. These slides show the cocci, which Dr. Unna has called marrohcocci, on account of their mulberry-like grouping, and which he believes to be the efficient cause of seborrhœic eczema. These cocci flourish in the horny layer and in the follicles, and are found in enormous numbers in seborrhœic conditions of the skin and scalp. Injected under the skin, they seem to die, and are incapable of exciting suppuration. Apparently they require oxygen in order to flourish and multiply successfully. Pure cultures have been obtained, and in one case, it is said, a slightly vesicular eruption has been produced by inoculation. On the other hand, precisely similar cocci are obtained in small numbers by scraping the healthy skin, which would seem to indicate that they merely multiply with exceptional rapidity on an exceptionally favourable soil, perhaps aggravating an already morbid condition, and probably modifying its clinical appearance. Further investigations and experiments are being made,

and no doubt more definite information will be obtained and more definite results arrived at ere long. Meantime, there is no doubt of the existence of the cocci in large numbers, and Dr. Unna is to be congratulated on the admirable manner in which he has succeeded in staining them in the horny layer.

The paper read before the dermatological section of the British Medical Association, at their annual meeting, by Dr. Byron Bramwell, on thyroid "feeding" for psoriasis, attracted a good deal of attention at the time, and has now been published in the *British Medical Journal* (Oct. 28th, 1893). His methods have already been tried in several of the London hospitals, with somewhat varying results. As yet it is probably too soon to say whether this treatment will prove to be of permanent value, or will merely take rank, in a year or two, amongst the innumerable recipes, popular and fashionable for a time, but soon falling into neglect and disuse. Dr. Bramwell's results are certainly remarkable as illustrating once more the rapid effect of injecta on the cutaneous surface, and seem to point to another long step away from Hebra's dictum as to local origin and treatment of skin affections, and a nearer approach to the position so long and so consistently maintained by the French school. It must not be forgotten that thyroid gland, in whatever form administered, is a remedy to be used only with supervision and care. In some patients it is responsible for distressing and even alarming symptoms.

RANKINE DAWSON, M.D.

London, Nov. 1st, 1893.

Reviews and Notices of Books.

A Text-Book of Ophthalmology. By Dr. Ernest Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized translation from the second enlarged and improved German edition. By A. Duane, M.D., Assistant Surgeon, Ophthalmic and Aural Institute, New York. One royal octavo volume of 788 pages, with numerous illustrations.

As a text-book this work already stands in high repute in Germany, and the second edition, from which the translation is made, is even more elaborate and complete than the first. The reader cannot fail to be imbued with the feeling that the author is giving the results of a ripe experience, coupled with a profound knowledge of his specialty. It is more particularly in pathology that this work excels, and indeed this part of the subject is not treated so fully in any recent work on ophthalmology, with the exception, perhaps, of one or two "Systems" of ophthalmology only to be found in the libraries of those who use such works as books of reference. In the several divisions of the work the anatomy and physiology of the eye are elaborately discussed. It would perhaps not be of less practical value if this feature were omitted, since every student or physician is, or ought to be, familiar with these subjects from the study of text-books other than those which are supposed to deal with diseases and their treatment. It is a question whether the same amount of space devoted to the detailed description, the classical aspects of the subject would not make the book more acceptable to the ordinary reader. For instance, the part of this work which deals with the errors of refraction cannot be perused without conveying the impression that the refractive errors are a matter of minor importance, to be disposed of by the application of a few simple rules; but every ophthalmologist knows by daily experience that they constitute the most difficult and exacting part of his work, and therefore call for close attention to minute details, such as can never be included in general rules or abstract principles. The same remarks will apply to the chapter on affections of the ocular muscles, a subject which is indeed most intimately connected with the errors of refraction. In

all other respects this work is one of the best of its kind now before the profession.

A Guide to the Examination of the Urine. By J. Wickham Legg, F.R.C.P., formerly Assistant Physician to St. Bartholomew's Hospital, and Lecturer on Pathological Anatomy in the Medical School. Seventh edition. Edited and revised by H. Lewis Jones, M.A., M.D., M.R.C.P., Medical Officer in charge of the Electrical Department in St. Bartholomew's Hospital. Price, 3s. 6d. London: H. K. Lewis, 136 Gower street. 1893.

This work is arranged on an excellent plan. It commences by giving a scheme to be followed in making a systematic examination of the urine. As each test is mentioned, the page is given on which is the detailed account of the method of its performance. The descriptions are concise and easily understood, and altogether it is a most useful book for ordinary clinical work. It would be an improvement if the exact proportions were given of the standard copper solution required in the volumetric examination for sugar in the urine.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Ninety-fourth Annual Session, held at Baltimore, Md., April, 1892; also Semi-Annual Session, held at Rockville, Md., November, 1891. Baltimore: Griffin, Curley & Co.

This volume contains the minutes of the meetings and the reports of the various committees. An important report is that of the committee appointed to devise means for lessening the amount of blindness from curable diseases. The following circular letter was prepared by them, and a copy sent to each midwife in Baltimore:—

"The undersigned practicing physicians of Baltimore were appointed by the Medical and Chirurgical Faculty of Maryland to take measures tending to diminish the blindness in our city and State. About *one-third of the blind* in our Blind Asylums have lost their sight through a disease which is common among the newly-born. This *fearful disease*, which causes so much suffering and unhappiness, *can be prevented by proper care. It can nearly always be cured and sight saved if*

treatment is begun early and kept up. The disease shows itself by redness and such swelling of the eyelids that the baby cannot open its eyes; the eyes discharge yellow matter. The disease usually begins during the first few days of life. This disease will often cause incurable blindness in forty-eight hours, unless properly treated.

"We ask you to impress upon the mothers you attend *the great danger of delaying treatment.* Do not let them waste valuable time in using breast-milk, chamomile tea, quince water and other home remedies, for *a day lost may rob the infant of its sight.* Insist upon sending the child, as soon as the disease begins, to a physician, or, if the parents are unable to procure one, to a dispensary,

"You can do much towards *preventing* the disease by thoroughly cleansing the child's eyes immediately after it is born. Wash the eyes carefully with fresh, warm water and a piece of perfectly clean soft linen. Do not use water or linen which has been used on other parts of the body, but wash the eyes first of all. You will assist greatly in the important work of diminishing blindness:

"1. By washing the eyes of the newly-born as described above, in order to prevent the disease from attacking them.

"2. By instructing the mothers whom you attend concerning the *importance of watching the eyes closely during the first and second weeks.*

"3. By calling attention to the *dangers of the disease*, and the *great urgency of prompt medical treatment.*

"Hiram Woods, M.D., *Chairman*,
"George H. Rohe, M.D.,
"J. Edwin Michael, M.D.,
"Harry Friedenwald, M.D.,
"*Committee.*"

The address of the President, Dr. William H. Welch, Professor of Pathology in the Johns Hopkins University, is given in full. It is entitled "The Etiology of Acute Lobar Pneumonia, considered from a Bacteriological Point of View," and, as might be expected, is a masterly review of the subject. The volume closes with lists of the Presidents from 1799 to 1892 and of the active members of the association.

Hernia: Its Palliative and Radical Treatment in Adults, Children and Infants. By THOMAS H. MANLEY, A.M., M.D., Visiting Surgeon to Harlem Hospital, Consulting Surgeon to Fordham Hospital, Member of New York Academy of Medicine, American Medical Association, New York State and County Medical Associations, International Medical Congress, Pathological Society, etc. Philadelphia, Pa.: The Medical Press Co., Limited, 1725 Arch street. 1893.

In this work Dr. Manley takes the middle ground between those who claim that intelligent surgical intervention will cure all cases of hernia, and those who deny any good results from operative interference. He begins by classifying hernial cases, with a view of showing which are legitimate subjects for surgical intervention and which are not, and also of indicating the proper methods of dealing with each. The first important fact he calls attention to is that, contrary to popular impression, the diagnosis of hernia is frequently far from easy, and he proceeds to point out more than one condition which may be mistaken for a *rupture*, as the disease is incorrectly called in common parlance. The author calls attention to several errors in infantile hygiene, and strongly deprecates the use of a tight binder around the abdomen in infants. He devotes a chapter to the treatment of hernia in infants by means other than operative. In his description of the trusses, he declares himself to be in favour of the circular spring truss, although he acknowledges that, if properly made, it is beyond the means of many patients. The hank truss is mentioned, and commended as being cheap and effective, but precise directions for applying it are not given, and unless properly applied it is useless. The fourth chapter closes the first part of the book, that devoted to the consideration of hernia in children, and is taken up by the consideration of the varieties of hernia in which operative interference is to be recommended. In the second part, the various palliative methods in which hernia in the adult may be treated are discussed. In the third part, a history of the origin and progress of surgical intervention is given, and also the anatomy and mode of production of the various forms of hernia. The fourth and last part of the book is devoted to the operative methods of dealing with hernia, and in a systematic way all are in turn described.

Dr. Manley's book will be read by all with much pleasure and profit, as giving as short an account of the subject as is consistent with clearness. Indeed, this conciseness is a feature of the book to be much commended. It is a work that the general practitioner as well as the surgeon will find useful.

A System of Genito-Urinary Diseases, Syphilology and Dermatology, by various authors. Edited by PRINCE A. MORROW, A.M., M.D., Clinical Professor of Genito-Urinary Diseases, formerly Lecturer on Dermatology in the University of the City of New York, Surgeon to Charity Hospital, etc. With illustrations. In three volumes. Volume II.—Syphilology. New York: D. Appleton & Co. 1893.

The second volume of this work is now published, and is devoted to the consideration of the various manifestations of syphilis. The first article is by Jas. Nevins Hyde, on the history, etc., of the disease, and in this he reviews the evidence adduced regarding the date and point of its origin. The etiology of syphilis is given by John A. Fordyce, and he details the methods which have been pursued in endeavouring to find the germ which, in the opinion of most modern pathologists, is the cause of the disease. He also takes up the question of the possibility of inoculation of the lower animals, and answers it, from the evidence he brings forward, in the negative. L. Duncan Bulkley writes on the modes of infection, and goes into the subject as fully as the space at his disposal allows. Primary syphilis is by Edward Bennet Bronson, and constitutional syphilis by Joseph Zeisler. The editor takes up syphilis of the skin, and illustrates his paper by some excellent plates, both coloured and uncoloured. Syphilis of the appendages of the skin is by Samuel Alexander. Syphilis of the mucous membranes is by Chas. W. Allen; of the joints, muscles, etc., by Frank Hartley; of bones by W. R. Townsend; of the upper air passages by John Noland Mackenzie; visceral syphilis by W. T. Councilman. James P. Tuttle writes on syphilis of the rectum and anus, and has another paper on chancroid of the same parts. Syphilis of the genito-urinary system is by Eugene Fuller, while the nervous system is by B. Sachs, and inherited syphilis of the nervous system

by William N. Bullard. The eye lesions, both acquired and inherited, are written on by Chas. Steadman Bull, and the ear by J. Orne Green. Hereditary syphilis is by F. R. Sturgis; diagnosis and prognosis by Hermann G. Klotz; treatment by J. Wm. White, and its relation to public health by Samuel Treat Armstrong. Chancroid is by Edward Martin.

The articles are very ably written, and the subject is gone into most extensively, and evidence is freely brought forward to support the conclusions which are arrived at. The illustrations are numerous and good, and altogether the volume is a most valuable addition to the literature of the subject.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M.D., LL.D., F.R.C.P., Physician-Accoucheur to H. I. and R. H. the Duchess of Edinburgh; Professor of Obstetric Medicine in King's College; Physician for the Diseases of Women and Children to King's College Hospital, etc., etc. Sixth American from the eighth English edition, with notes and additions. By Robert P. Harris, A.M., M.D., Honourary Fellow of the American Gynæcological Society, and of the Philadelphia Obstetrical Society, etc. With five plates and 217 illustrations. Philadelphia: Lea Brothers & Co. 1893.

Playfair's midwifery is so well known, and has been used by so many generations of students, that any praise of it is superfluous. The present edition sustains the reputation gained by the work, by embodying all the advances made in the art of obstetrics. Besides, it has the advantage of notes by Dr. Harris, thus giving American as well as British views. These notes are enclosed in brackets, in order not to interfere with the original text. Many new plates are added, and much new matter. Thus, symphyseotomy comes in for favourable notice, as also does the Cæsarian section, as giving good results when performed with antiseptic precautions. Extra-uterine pregnancy and its treatment by operation, and puerperal fever, are also viewed in a different light, on account of the advances made in asepsis and antisepsis. The work is most complete, and cannot be too highly recommended.

Gaceta Medica, Revista Ecuatoriana de Medicina, Cirugia y Farmacia.

We have received the October number of this journal, which is published in Guayaquil, Ecuador. The editors are Drs. Samuel Mora, Emilio G. Roca and César Borja. This is a new publication, the first number appearing in June last. The articles contained in this number are:—School of Agriculture and Botanical Garden, Analysis of drinking water, Surgical treatment of scirrhus of the mamma (illustrated), Legal medicine and toxicology, Studies in national jurisprudence, and a selection from the *Journal de Médicine et Chirurgie Pratiques* on animal vaccine. The journal is printed in Spanish, and is an excellent publication, keeping well in touch with the Old World as well as the New.

Society Proceedings.

PROVINCIAL BOARD OF MEDICINE.

The half-yearly meeting of the College of Physicians and Surgeons of the Province of Quebec was held on Wednesday, the 27th September, 1893, in the rooms of the Medical Faculty of the University of Laval, Quebec.

In the absence of the President, the Hon. J. J. Ross, M.D., who was unwell, Dr. L. J. A. Simard, Vice-President for Quebec, took the chair, at 10 o'clock precisely.

The Governors present were Drs. F. W. Campbell, Vice-President for Montreal; A. G. Belleau and A. T. Brosseau, Secretaries; A. Dagenais, Treasurer, and J. M. Beausoleil, Registrar, A. Vallee, W. A. Verge, C. S. Parke, A. A. Watters, Leonidas Larue, C. E. Lemieux, Côme Rinfret, L. T. E. Rousseau, P. M. Guay, Alfred Morisette, J. M. McKay, R. Craik, J. B. McConnell, the Hon. D. Marcil, J. B. Gibson, P. Cartier, R. Latraverse, H. Cholette, P. J. L. Bissonnette, F. Paré, Thos. Larue, F. J. Austin, E. C. P. Chèvrefils and L. A. Plante.

The minutes of the last meeting were read and adopted, excepting that it was resolved to add the words "not sworn" (*pas assermenté*) opposite the name of Mr. Lucien Miller, graduate, who is there inscribed as having his license; Dr. Beausoleil, the Registrar, having it still in his possession.

Letters from the Hon. J. J. Ross, M.D., and Dr. J. H. L. St. Germain were read, regretting their inability to be present at the meeting, on account of their being too unwell.

As some of the members of the Board had suggested that the examiners for the preliminary examination should meet together some days in advance, to come to an understanding relative to the questions to be put at the examination, a letter from the Rev. Mr. Laflamme was read, asking the advice of this Board on the subject. It was decided that a meeting was unnecessary.

Dr. J. B. McConnell was named a member of the Board, representing the Faculty of Medicine of Bishop's College, in the place of Dr. James Perrigo, who has resigned.

The reports of the assessors of Laval University (Quebec and Montreal) were read and adopted.

The reports of the examiners for the preliminary examination were read and adopted.

Thirty-one candidates presented themselves, and ten were admitted. The following are their names:—Messrs. J. H. L. Pagé, W. S. Picotte, Ashton Kerr, Edgar Cassegrain, Arthur Lucier, D. Romuald Picard, Oswald H. Létourneau, Fred H. Wainwright, Wm. Kerr Brown and Jos. E. A. Poliquin.

The following Bachelors were admitted to the study of Medicine, after having been sworn on their respective diplomas:—Messrs. Alfred Simard, B.L., C. Eugene Parrot, B.S., Wilfred Lamay, B.S., Achille Comptois, B.A., Henri Larue, B.S., F. H. Pelletier, B.A., Achille Boisvert, B.A., Henri Lafleur, B.S., Joseph Pageau, B.S., Marc Rudeau, B.L., Arthur Poirier, B.A., Elias Groulx, B.L., George Cartier, B.S., F. X. Massicotte, B.A., Calixte Ethier, B.L., Ernest Primeau, B.S., F. X. Duplessis, B.S., Olivier Tourigny, B.S., H. Lennon, B.A., L. J. A. Noiseux, B.S., Elzéar Duguire, B.S., Hormidas Deschambault, B.L.

The report of the Committee on Credentials was read, recommending that the license be given to the following graduates, who received it, after having been duly sworn on their respective diplomas:—

Laval University, Quebec.—Michel Thomas Blais, Louis Alfred Frechette, F. X. Jules Dorion, Gustave Bacon, Joseph Eugene Mathieu, Albert Alphonse Jobin.

Laval University, Montreal.—Aurèle Nadeau, François

Plourde, Jos. George Elzéar Miville-Déchêne, E. R. T. Larue, L. O. Bournival, J. T. Arthur Gauthier, Isidore Laviolette, Henri Lesage, L. Z. Lajoie, L. A. Lacombe, O. C. Milot, G. E. Landry, F. X. Renaud, G. C. F. Schiller, Jules Jehin-Prume, H. Denis, Victor Geoffrion, Pierre Barrette, J. E. Gervais, R. Dazé, Zénophile Beauchamp, J. P. Gagnon, Eugene Lafontaine.

McGill University.—J. W. A. Seguin, J. W. Lawrence, T. P. Shaw, J. A. Henderson, W. J. Deeks, P. H. Phillemore.

Edinburgh University.—Walter Scott.

On the motion of Dr. Dagenais, seconded by Dr. Guay, it was resolved that Mr. F. X. Lemoine DeMartigny should be allowed to take the oath upon presentation of his diploma of Doctor of Medicine of Laval University at Montreal, which is not ready to-day.

The Committee on Credentials makes this further report :— That Messrs. F. X. Plouffe and J. A. Lapierre, who were lawfully admitted to the study of medicine in September, 1889, and who have presented a diploma of Doctor of Medicine dated in April, 1892, that is to say, obtained before the fourth session; that they shall only obtain their licenses on proving that they have followed the course of medicine during their fourth year, and by undergoing a further examination before this Board.

These two gentlemen having obtained from Dr. Hingston a certificate of attendance at the indoor and outdoor clinic of Laval University during their fourth year, it is resolved that they be allowed to undergo the professional examination.

Mr. A. G. Ferguson, of Vancouver, admitted to the study of medicine in 1884, and graduated in 1887 at Queen's University, makes application for a license.

Proposed by Dr. Dagenais, seconded by Dr. Rousseau, and resolved that this Board does not accord a license to Mr. Ferguson without an examination.

Mr. Eugene Ferron, undergraduate, is also referred to the Committee of Professional Examination named by the President.

The meeting adjourned at 12.15 to 1.30 p.m.

Afternoon Meeting.

The President *pro tem.* took the chair at 2 p.m.

The Examination Committee reports that Messrs. Ferguson, Plouffe and Lapierre have successfully passed the professional examination before the special committee appointed by the Board, and that the license be given to them. Mr. Ferron is refused.

In the absence of Dr. St. Germain, confined to his house by illness, Dr. Bissonnette laid on the table a series of amendments to the projected Medical Bill, but, as a large number of propositions of very great importance are before the chair, he did not press the reading of these amendments at present, but hoped that in the month of May next Dr. St. Germain would be able himself to explain the advantages offered by these amendments.

Dr. Dagenais gave notice that at the next meeting of the Board he would propose :—

1. That the members of this Board shall receive for each day's attendance the sum of ten dollars and their travelling expenses.

2. That the President be authorized to administer the oath to those who take their license and their degree the day before the meeting, after the session of the Committee on Credentials.

3. That the two Secretaries, the Registrar and the Treasurer receive annually a fee of two hundred and fifty dollars.

4. That Bachelors who have a right to their matriculation without examination have the oath administered to them, either at Montreal or Quebec, at least eight days before the meeting of the Board, by one of the Secretaries, who shall make a report at each meeting of the number and the name of these Bachelors.

Dr. Bissonnette asked the following questions :—

1. Have the Secretaries forwarded to each licensed physician a copy of the Statutes and Rules of the College ?

Reply.—No. There only remain twelve or thirteen copies.

2. Have the Secretaries forwarded to each licensed physician the reports of the proceedings of each sitting of the Board, containing also the names of those newly admitted to degrees and licenses, and of midwives ?

Reply.—No, because no copies remain of the medical register. For the last year and a half the reports of the meetings have been published in the *Union Médicale*, and Dr. Guay adds that all the members of the Board receive this journal.

3. Has the medical register, giving the names of all physicians licensed and not licensed in the Province of Quebec, been published and distributed among the members of the profession ?

Reply.—Dr. Beausoleil, the Registrar, replies that he is about to prepare an alphabetical table of the names of all licensed physicians, and that then the statutes and rules, as well as the proceedings of the meetings, will be regularly distributed.

It was then unanimously resolved that the Board authorizes the Registrar to have printed an extract of the register giving the names of all licensed physicians in the Province.

Dr. Beausoleil read the following report of the Committee on Medical Legislation :—

PROVINCIAL BOARD OF MEDICINE.

COMMITTEE ON MEDICAL LEGISLATION.

Mr. President and Members of the Provincial Board of Medicine :

I have the honour to present to you the report of the Committee on Legislation appointed by you at the half-yearly meeting in May last.

Your Committee sat on the 7th of June and on the 5th of July last.

The labours of your Committee have been directed towards the creation of a Provincial Board of Examination, with the object of obtaining reciprocity of licensing with Ontario, of protecting the profession, and of gaining information.

After considerable discussion, Dr. Rottot, delegate of the Medical Faculty of the University of Laval at Montreal, suggested to the Committee to think over the following proposition, seconded by Dr. Chèvrefils :—

1. To augment the powers of the Assessors of the Medical Faculties of the Province.

2. To increase the number of the Assessors *pro rata* to the number of Committees of Examination of the Medical Faculties, up to a complement of six.

3. To permit the Assessors of the Medical Board to interrogate those candidates whose examination has appeared to them to have been unsatisfactory.

This proposition, submitted to the Universities and to the Faculties of Medicine, has resulted in the following replies:—

UNIVERSITÉ LAVAL,
QUEBEC, 16th June, 1893.

DR. SIMARD, Professor Université Laval:

SIR,—In reply to the enclosed communication of the Committee on Medical Legislation, Monseigneur the Rector desires me to say that Laval University has no objection to the Assessors interrogating the candidates at the examinations of Bachelor of Arts and of Doctor of Medicine.

With respect, I remain, &c., &c.,

J. C. K. LAFLAMME,
Secretary Laval University.

Dr. Rottot makes known the position of the Faculty which he represents as follows:—

SCHOOL OF MEDICINE AND SURGERY OF MONTREAL,
MEDICAL FACULTY OF LAVAL UNIVERSITY, MONTREAL,
MONTREAL, 1st July, 1893.

DR. BROSSEAU, Secretary to the Provincial Board of Medicine, Quebec:

MR. SECRETARY,—In the event of Dr. Rottot, representative of the Medical Faculty of Laval at Montreal, being unable to be present at the meeting of the 5th July of the Committee on Medical Legislation, and to make a report in the name of the Faculty, I beg to inform you officially that the motion Rottot-Chèvrefils, adopted by the aforesaid Committee, has been submitted to the Laval Faculty of Montreal on the 15th and 20th June, 1893, and has been adopted.

With respect, I beg to remain, &c., &c.,

H. E. DESROSIERS,
Secretary,
E. M. & C. of Montreal, Fac. Med. Univ. Laval.

Dr. R. Craik reported verbally that McGill University refused to give to the Assessors of the Medical Board the power to interrogate the candidates at the examination in Medicine.

Dr. McConnell, representative of Bishop's College, reported

that it had been impossible to have a meeting of the Faculty, but that he was under the impression that his University would oppose any increase in the powers of the Assessors.

On the proposition of Dr. Gibson, seconded by Dr. Brosseau, the Committee approved of the proposition Rottot-Chèvrefils, and referred it to the Medical Board at its semi-annual meeting of September.

The votes in favour of this resolution were:—Hon. Dr. Marsil, Drs. Rottot, Brosseau, Chèvrefils, Simard, Gibson and Beausoleil. Against this resolution:—Drs. Craik and McConnell.

It was then proposed by Dr. Brosseau, seconded by Dr. Chèvrefils, That in the event of the motion Rottot-Chèvrefils not being carried, Dr. Simard be requested to forward to the Committee of Legislation his proposition relative to the facilitating of reciprocity of license between this Province and that of Ontario.

This proposition reads as follows:—

Whereas, it appears that the Board of Medicine of the Province of Ontario would be disposed to accord reciprocity to the diploma of licenciates of the College of Physicians and Surgeons of the Province of Quebec, provided that this diploma shall have been obtained by an examination held by the Board of Physicians and Surgeons of the Province of Quebec.

And whereas, in consequence of the uniform formula of the diploma of the license of the Board of the Province of Quebec, those who have already passed, or who shall pass, an examination before the said Board, would not be able to prove *prima facie* their right to such reciprocity.

Be it resolved, that the formula of the license of this Board shall for the future indicate if it has been conferred upon the presentation of a University diploma, or if it has been given after an examination before this Board.

And moreover be it resolved to ask the Medical Board of Ontario, and of the other Provinces, reciprocity for those physicians of the Province of Quebec who are of the latter class—that is to say, those who have passed their medical examination before this Board.

The whole respectfully submitted.

Dr. D. Marcil, President.

Dr. J. M. Beausoleil, Secretary.

Proposed by Dr. Beausoleil, seconded by Dr. A. Dagenais, and unanimously resolved that the report of the Committee on Legislation be adopted.

Proposed by Dr. Beausoleil, seconded by Dr. Dagenais; and resolved that the Secretaries of the Medical Board be authorized to sign an agreement with the authorities of the Universities to put in operation the Rottot-Chèvrefils resolution, adopted by this Board, which reads as follows:—

"To permit the Assessors of the Medical Board to interro-
" gate those candidates whose examination shall not appear
" to them to have been satisfactory."

In case of the motion Rottot-Chèvrefils not being carried, Dr. Beausoleil proposed, seconded by the Hon. Dr. Marcil:—

1. That it is in the interest of the public to assure to the people of this Province a medical service worthy of confidence.

2. That it is the duty of the Council of the profession (Medical Board) to assure itself of the scientific proficiency of the candidates for the diploma of practice (license).

3. That every endeavour to obtain the exercise of this power of control has been frustrated by the opposition of the Medical Faculties.

4. That all efforts towards reconciling the interests of the Universities and those of the public and of the profession having been fruitless (in consequence of the refusal of certain Faculties to conform to the motion Rottot-Chèvrefils).

5. That this Board considers that it is the duty of the Government to take in hand the interest of the people in general, and of the profession in particular.

6. That a new legislation be adopted, so as to give to the corporation of the College of Physicians of this Province the control of the entry of its future members (admission to practice).

Dr. Beausoleil, Registrar of the College, read, clause by clause, the notice of motion given by him at the semi-annual meeting of last May to the Board.

Proposed by Dr. Beausoleil, seconded by Dr. Dagenais, and *Resolved* (1), That the fee for the certificate of admission to study shall for the future be twenty dollars ($20), in place of ten dollars ($10).

Resolved (2), That the fee for the Provincial license shall be forty dollars ($40), in place of twenty dollars ($20).

Resolved (2 *a*), That the regular fixed meetings of the Board of Governors shall be held the first Wednesday in July and the last Wednesday in September of each year; the meetings in July in the city of Montreal, and those in September in the city of Quebec.

Resolved (3), That the following subjects shall be part of the programme of the examination for admission to the study of Medicine:—Botany, Chemistry, Elementary Physics and Intellectual Philosophy.

Resolved (4), That the medical studies be modified in the following manner:—1. Normal Histology. 2. Descriptive Anatomy. 3. Practical Anatomy. 4. General and Special Physiology. 5. Hygiene. 6. General Pathology. 7. Medical Chemistry, Theoretical and Practical. 8. Internal Pathology. 9. External Pathology. 10. Materia Medica and Therapeutics, Practical Pharmacy. 11. Obstetrics and Pathology of Early Infancy. 12. To have been present at at least twelve confinements at a maternity hospital, and to have followed a course of clinical obstetrics of forty-two lessons, or two courses of twenty-four lessons. 13. Medical Clinics and Surgical Clinics, three courses of eight months, or four courses of six months, in an hospital containing at least fifty beds for each of the subjects. 14. Medical Jurisprudence. 15. Instruction at the Morgue. 16. Mental and Nervous Diseases. 17. Diseases of Children or Pædiatrics. 18. Gynæcology. 19. Histology, Pathology and Bacteriology. 20. Operative Medicine and Minor Surgery. 21. Medical History and Medical Ethics. 22. Ophthalmology and Otology. 23. Rhinology and Laryngology.

That the professional examination made by the Faculties and the Board shall be conformed to the above programme.

Resolved (5), That in place of two Assessors to the Faculties of Medicine, the Board shall name not less than two and not more than six Assessors for each Faculty.

That in future the Board shall only supply Assessors for the annual examination of each Faculty.

That in case of any Faculty wishing to have the services of the Assessors for a supplementary examination, notice must be given thirty days beforehand to the Secretary of the section to which it belongs, and remit the amount of the fees to the said Assessors.

The Assessors shall have the right to be reimbursed for their travelling expenses, and moreover a fee of ten dollars ($10) for each day that they are detained by their duties.

Resolved (6), That it shall be part of the duty of the Assessors to be present at the examination of each student. Before proceeding with an examination, the Assessor shall enter in a book *ad hoc* the names and surnames of each candidate, the date of his certificate of admission to study, the title of each subject for which he has a certificate of attendance, and he will note in writing his observations in such a manner as to show cause for his report. The notes of the Assessors shall be the property of the Medical Board.

Resolved (7), That the Assessor shall only hear the examination of such candidates as shall have fulfilled the following conditions: For the primary examination he must have a certificate of admission to the study for the space of at least two University sessions in a Faculty of Medicine recognized in this Province, conformably to the regulations of the College of Physicians and Surgeons of the Province of Quebec.

The primary examination shall include Normal Histology, Descriptive and Practical Anatomy, Bacteriology, General and Special Physiology, Hygiene, General Pathology, Medical Chemistry Theoretical and Practical, and Practical Pharmacy.

Any candidate who shall have failed in Anatomy or Physiology shall have to undergo the entire examination afresh.

Resolved (8), That the final examination shall include Internal and External Pathology, Materia Medica and Therapeutics, Obstetrics and Pathology of Early Infancy, Medical Jurisprudence and Toxicology.

No candidate shall be admitted to the final examination without having passed his primary examination to the satisfaction of the Assessors of the Provincial Medical Board.

Reeolved (9), That the following subjects of special instructioe shall be part of the examination questions in the practical examination:—Mental and Nervous Diseases, the Diseases of Children, Pathological Histology, Gynæcology, Operative Medicine and Minor Surgery, Ophthalmology, Rhinology, Otology and Laryngology.

No candidate shall have the right to pass this final examin-

ation before the Assessors without he shall have studied in a University during at least four sessions, starting from the date of his certificate of admission to study; so as to have in all points conformed himself to the statutes, rules and regulations of the College of Physicians and Surgeons of the Province of Quebec.

Resolved (10), That in giving notice of the date of their annual examination, the Faculties shall also inform the Secretary of the section to which they belong of the names of the candidates for examination, both primary and final.

Resolved (11), That the Assessors shall only be required to go to the Faculties when these latter shall be ready to pass consecutively all the students who shall have entirely conformed to the requirements of the statutes and regulations of the College of Physicians and Surgeons of the Province of Quebec.

Proposed by Dr. Beausoleil, seconded by Dr. M. Guay, and resolved that Dr. J. A. Duchesneau, of Terrebonne, be named a member of this Board, to replace the late Dr. W. Prevost.

Proposed by Dr. Beausoleil, seconded by Dr. Dagenais, that the resolution adopted by this Board in May, 1892, concerning admission to the study and to the practice of medicine enters this day fully into force, without consideration for the permits to study obtained before 1892. and that the Secretaries of the Medical Board inform all the medical corporations of the Dominion of this rule.

That the present resolution shall only be applicable to those Provincial Boards of Medicine with whom the Board of this Province has not established reciprocity of license.

Unanimously adopted.

Proposed by Dr. Brosseau, seconded by Dr. Beausoleil, and resolved that the following names be added to those of the former Assessors:—Drs. J. Gauthier, H. Cholette, A. R. Marsolais, F. Paré, J. Girouard, P. J. L. Bissonnette, W. Grignon, J. A. Duchesneau, J. M. Beausoleil, E. P. Lachapelle, Côme Rinfret. C. S. Parke, W. A. Verge, P. M. Guay, Thos. Larue.

On the motion of Dr. Guay, seconded by Dr. Brosseau, a vote was passed thanking Laval University for the gratuitous use of their rooms.

The meeting adjourned at 4.15 p.m.

—*Translation of the Official Report in l'Union Médicale.*

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, May 12th, 1893.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Large Scrotal Hernia.—Dr. ARMSTRONG brought before the Society a man suffering from an enormous hernia. It had been gradually increasing for the last twenty-four years; a truss had never been worn. The sac seemed to contain the greater part of the small intestines, and the ring was large enough to admit the fingers to the knuckles. Dr. Armstrong intended to transplant the cord and close the opening.

Dr. SHEPHERD referred to a similar case upon whom he had operated several years age. The sac contained all the abdominal contents, except the stomach and rectum. The testicle, which was cystic, was removed, and the canal completely closed. There has been no return.

Macroglossia.—Dr. SHEPHERD showed an infant of six months suffering from an extreme degree of macroglossia. The tongue projected about two inches from the mouth, and great difficulty was experienced in feeding the infant. He proposed to remove the tongue with the ecraseur.

Poisoning by Sulphate of Copper.—Dr. WYATT JOHNSTON exhibited the stomach of a man aged 28 who had committed suicide by drinking nearly a quart of a saturated solution of sulphate of copper from a battery jar in the electric works, where he was employed as a night watchman. Death occurred in an hour and a half. The stomach and intestines had externally a leaden-blue colour, and contained a large amount of pale grayish-green flocculent fluid. The mucosa had the appearance of having been tanned, and was stained a deep green colour. Chemically, the contents of the stomach were found to consist of basic or sub-sulphate of copper. Heart muscle and liver parenchyma looked opaque and grayish. No examintion for copper was made of these organs.

Dr. W. F. HAMILTON said that the patient had been admitted to the General Hospital shortly before death. Large quantities of warm water and mustard failed to produce emesis. He seemed to suffer from extreme pain and difficulty of respiration, owing to a quantity of mucus in the throat.

Extremities were cyanotic; superficial capillaries were markedly dilated. There were some mucous and watery stools.

Dr. Mills asked if there was any evidence along the course of the vessels and lacteals to indicate whether the salt had been absorbed into the blood.

Dr. Johnston replied that there were no signs to indicate that absorption had taken place; no naked-eye changes in the blood.

Localized Tuberculosis of Ascending Frontal Convolution.—Tuberculosis of one Suprarenal.—Dr. Adami exhibited the drawing of a brain recently removed by him, presenting a peculiarly rare localized tubercular lesion, affecting the centres for the movements of the upper limb and neck of the left side.

The patient, a woman of 28, phthisical and a morphine maniac, a patient of Dr. Stewart at the General Hospital, had for two days before death suffered from repeated attacks of an epileptic nature, in which there were convulsive movements of the left upper extremity and the neck, so that the head became pulled down to the left and the face turned partly to that side. These movements were executed with great rapidity, as many as 145 contractions of the extremity being recorded per minute.

At the autopsy there was found old phthisis of both apices, and extending from there a condition of acute tubercular broncho-pneumonia, miliary tubercles of relatively large size being scattered all over both lungs. Both the kidneys and the liver presented similar tubercles, while the medullary substance of the right suprarenal contained caseous tubercular foci of large size. The left suprarenal had a grey softened medulla, but was not tubercular.

A condition of great interest was exhibited in this brain. Careful examination and section revealed no tubercular affection save at one spot—an area a little over half an inch in diameter, situated upon the right ascending frontal convolution, at either apposed side of a fold forwards in that convolution, at the level of the sulcus which separates the superior from the middle frontal region of the brain. Here miliary tubercles surrounded the surface vessels, and the tubercular process extended along the sheaths of the branches given off from these and formed small wedge-like masses, passing through

the grey to the outer surface of the white matter. Dr. Adami pointed out a tubercular lesion of such small dimensions affecting so distinctly one group of associated movements was almost, if not quite, unique. He called attention to the fact that this case supports Ferrier's conclusion reached by experimental research that the area for the movements of the neck passes backward to the ascending frontal, and overlies or intermingles with the areas for movements of the upper extremity.

Recto-ovarian Fistula.—The same case presented another rarely recorded condition. Upon removal of the pelvic organs *en masse*, it was found that both ovaries were situated low down in the cavity, and were there bound to the vaginal end of the uterus by firm old inflammatory adhesions. They were fibroid and contracted. The fallopian tubes curved downwards to them and did not present such extensive evidence of inflammatory disturbance. It is to be noted that the left tube was not at its extremity in close attachment to the ovary.

Upon attempting to cut away the left ovary a fistulous track, containing foul-smelling contents, was opened, and upon passing a sound into this, it emerged into the rectum at a point about 3½ inches above the anal orifice. The ovary lay curved over the blind end of this fistula, which was 1½ inches in length. There had been so much inflammatory change all around the fistula, that it was not possible to recognize microscopically anything but firm fibrous tissue in this region; however, macroscopically, the rather thin upper wall of the fistula, seen from above, was in direct connection with and indistinguishable from the rest of the ovary, while, clinically, there was the history of acute ovarian disturbance several years previously. Hence it may safely be inferred that this was a true recto-ovarian fistula.

Not a few cases of tubo-ovarian abscess bursting into the rectum are on record, but here the tube was not implicated, and Dr. Adami held that the fistula could only be explained as the consequence of an acute suppurating oöphoritis or perioöphoritis with rupture into the rectum. The patient had complained of no recent ovarian or rectal trouble; the fistula, as its walls showed, must have been of long standing.

Dr. William Gardner had never met with a condition of

recto-ovarian fistula as described. Ovarian abscess without involvement of the tube is extremely rare.

Dr. STEWART said that the case was unique as a demonstration of the location of the motor areas.

White Sarcoma of the Retina.—Dr. BULLER exhibited the specimen and gave the history of the case. The patient, a woman, aged 49, had a subacute glaucoma of some standing in the right eye. A year and a half ago she became suddenly blind. The other eye was absolu ely healthy, so he had come to the conclusion that this was not a case of ordinary glaucoma, but that the blindness was due to some cause antecedent to the glaucoma. The lens had become quite opaque, thus precluding ophthalmoscopic examination, and making the diagnosis difficult. He, however, counselled enucleation, which was done. On making an equatorial section a round growth was seen on the fundus, which proved to be a white sarcoma, a condition of great rarity. The rest of the eye was in a fairly healthy condition; the detachment of the retina had not become complete.

Thoracic Empyæma.—Dr. ALLAN read a paper on this subject, dealing with the surgical treatment.

Dr. SHEPHERD thought that ordinary cases following pneumonia got well after aspiration. But in cases where incision into thorax, with removal of one or more ribs, is performed, the operation gives great satisfaction. He never washes out the cavity except when the pus is fœtid, as he considers it unnecessary to introduce foreign matter.

Dr. MCGANNON said that there was a great difference of opinion about washing out the cavity. Some say that the procedure causes shock, but he thought shock might be due to hæmorrhage. A weak solution of peroxide of hydrogen could never do harm, and might be of great service.

Dr. STEWART had recently seen three cases of pneumonic empyæma, and none had been successfully treated by aspiration.

Stated Meeting, May 26th, 1893.

Dr. James Bell, 2nd Vice-President, in the Chair.

Dr. Arthur Beers was elected a member.

Exophthalmic Goitre.—Dr. J. B. McConnell presented before the Society the patient, a woman 45 years of age, married 25 years, 4 children, the youngest being 5 years. The trouble began in the summer of '91, when she began to suffer from a spasmodic cough, which seemed to arise in the throat, and was associated with a great deal of palpitation. During the winter following she got rid of the cough, but the palpitation grew worse. During the summer of '92 the palpitation was so bad that she could scarcely lie down. She noticed the swelling of the thyroids first about Christmas, '92, and they have grown gradually larger ever since. In the spring of '92 she first observed some brown pigment spots on different parts of her body; since then they have appeared on the hands, the shoulders, the inner sides of the thighs, and somewhat less marked on other parts of her body. Associated with these pigment spots are patches of leucoderma. The exophthalmos is not as yet very well marked; it is becoming more so, however, seeming to be following the other two cardinal symptoms. She has also suffered from marked tremor, which has been a little better of late, several days' rest seemingly having rendered it quieter. Her pulse ranges from 90 to 120, and is very irregular.

Examination shows the heart to be considerably enlarged; the apex beat is considerably to the left of the normal point.

It is a very typical case of Graves' disease. The pigmentation, however, does not appear to be a very common complication. In Pepper's system of medicine it is not even mentioned; Osler, however, speaks of it as one of the complications of this disease.

There is no anaemia, although she is emaciated and somewhat pale; the corpuscles number 5,200,000 to the cubic millimetre.

Dr. Adami remarked that pigmentation was very common in the cases of this disease he had seen, in a country where Graves' disease appeared to be particularly common, Lancashire. It was looked on there as the fourth cardinal symp-

tom. Pigmentation is interesting as showing the nervous nature of exophthalmic goitre, and brings it into relation with more than one disease in which there is some affection of the sympathetic system. Addison's disease is another of these.

Dr. Lapthorn Smith extolled the use of the galvanic current in the treatment of the disease, comparing it to quinine in malaria and mercury in syphilis. He cautioned moderation in the turning off or on the current, remarking that the sympathetic nature of the trouble is shown by the tendency of the patient to faint or turn pale under even the slight shock thereby incurred. A single sitting often reduces the size of the tumour quarter of an inch. A lady afflicted with this trouble, and in whom the tumour is so large as to obstruct breathing, had been accustomed to come to him yearly for several years, just to have it reduced, it growing again in the interim. The strength of the current used varies from 10 to 15, and rarely up to 20 milliampères. No puncture was ever made, simply an electrode large enough to cover the surface, and to effect this it is better to make it concave. Clay or absorbent cotton answer very well for its manufacture.

Dr. Kirkpatrick related the history of a case where the galvanic current had been used with results corresponding to those of Dr. Smith. The patient usually stood 10 milliampères, commencing with 5, and gradually increasing. In the *Medical News*, a few months ago, a case was mentioned where the Faradic current had been used with equally gratifying results. On the other hand a case occurred in the General Hospital some time ago, where the constant current had been used without any result. Probably, after all, it is only in a certain number of cases where it is of use.

Dr. McConnell asked on what principle galvanism is used in this disease. The enlargement of the thyroid is a secondary phenomenon. It seems to begin in some affection of the sympathetic, a vaso-motor paralysis localized to a certain extent; in this way the heart is primarily affected. Goitre and other symptoms seem to be secondary and not essential, from a causative point of view. Have they applied the current with a view to reduce the enlargement, or has the sympathetic been galvanized?

Dr. L. Smith thought galvanism acts as a powerful tonic to the sympathetic. He believed that the beginning of the disease is a paralysis of the vaso-motor nerves in the thyroid, resulting in a hyperæmia of that gland. Galvanism acts by renewing the tone to these vessels, and the fainting, etc., which are observed to follow a too sudden application of the current, are due to the too rapid tightening of the sympathetic in the brain, the blood being thus temporarily cut off.

Cases of Cystic Diseases of the Ovaries.—Dr. Adami had recently received for examination a very interesting series of cases of disease of the fallopian tubes and ovaries, and brought some of them before the Society in order to invite discussion upon the subject of ovarian cystomata.

Case I. *Chronic Salpingo-oöphoritis.*—The two tubes and ovaries exhibited were obtained by Dr. Alloway from a woman aged 38 years, who had been married 11 years. She had been twice pregnant, the last pregnancy occurring 11 years ago, when there was evidence that she suffered from septic peritonitis. Upon examination before operation the uterus was found contracted, the ovaries and tubes enlarged, fixed and acutely tender and painful upon pressure. Dr. Alloway operated upon May 22nd, and upon exposing the parts found extensive delicate veil-like adhesions binding the ovaries to the surrounding organs; firmer adhesions bound the ovaries to the outer ends of the tubes. These numerous adhesions complicated the removal.

Left ovary and tube: The tube was tortuous and $\frac{3}{4}$in. in diameter. The walls appeared firm and greatly thickened, but upon section the reverse was found to be the case, for the tube was greatly dilated and thinned in its outer half; the smaller and narrower proximal half alone showed thickening of the walls, while the dilated region was filled with thick, almost solid, inspissated pus, which presented no cell structure, but only granular and fatty débris. There was almost complete stenosis of the uterine extremity of the tube; the ovarian extremity was completely occluded and was distended, all indications of the fimbriæ having disappeared. Upon the outer wall of the tube close to the ovary, there was a small white body of the size of a No. 12 shot; this, when opened,

was seen to be a cyst filled with similar inspissated cell débris, but unconnected with the lumen of the tube. The ovary, which was of fair size, presented in the substance of its inner half a cyst as large as a pea. This possessed a well-marked capsule, and was filled with similar fatty cell débris. Apparently this was the remains of an enlarged and suppurating graaffian follicle. The outer half of the ovary was almost entirely formed of a corpus luteum, with thickened sinuous walls and firm central area containing blood pigment.

The right tube presented a condition similar to that of the left. It was enlarged and tortuous, and its occluded extremity was adherent to the ovary. There was the same almost solid cheesy material filling the thinned and distended outer half; no trace of the fimbriæ could be determined, either externally or coiled within the tube. Immediately below the tube and to its outer end was a cyst with contents similar to those of the tubes and cysts already described. The outer wall of this cyst was in direct contact with the ovary, and it was a question as to whether this was of ovarian or ligamentous origin. The ovarian tissues could not be traced into its walls, and this, together with the position, favoured the latter view. The right ovary, like the left, contained a small cyst filled with cell débris and an old corpus luteum, and neither attained to the dimensions of those in the left ovary.

The well-formed veil-like adhesions, the nature of the contents of the tubes and abscess cavities, the complete disappearance of the fimbriæ, all indicate a peculiarly long-standing condition, as also did the history and sterility of eleven years' standing, but the most instructive feature of the case is the series of cysts here presented, for these masses of semi-solid fatty material, surrounded by definite capsules, may quite rightly be described as cysts. Clearly there had been a tendency towards the formation of chronic suppurative foci, not only in the tubes and ovaries, but also around them, so that we have cysts of inflammatory origin (1) in the ovaries themselves, starting in the corpora lutea, (2) in the broad ligament, (3) upon the outer wall of the fallopian tube, and (4) in the fallopian tubes; for these have become occluded, and each with its lumen distended by old inflammatory products, may be looked upon as cystic.

Case II. *Pedunculated Sub-peritoneal Fibro-myoma: Cystic Graaffian Follicles.*—Here was a sub-peritoneal fibro-myoma attached to the posterior portion of the uterus by a ligamentous membrane, which allowed it to be quite distinct and separable from the uterus. The ovaries in this case also showed evidence of disease. The right one was of fairly normal size; on section a cavity with a sinuous wall was seen; this cavity is certainly nothing other than a large corpus luteum which has undergone cystic degeneration and is now being absorbed. So that here is another form of cyst of the ovary. In the last specimens we had to do with a cyst which resulted from the suppuration of a Graaffian follicle or corpus luteum; in this one we have a corpus luteum which, instead of undergoing its normal course of enlargement, followed by atrophy, has increased abnormally (it was at least 30 millimeters in diameter). The blood first poured out had become absorbed, and was replaced by a fairly clear fluid, and only now, judging from the sinuous capsule, was absorption taking place. The left ovary in this case showed two other cystic conditions. One appeared to be a comparatively recent corpus luteum, the blood pigment still being in it, with little crystaline masses of hæmatoidin, the centre being a clear cystic space. The second was a simple cyst partially filled with semi-solid broken down cell matter, the rest of the cavity being filled with clear fluid.

Case III. *Multilocular Ovarian Cyst of Great Size: Cystoma Proliferum Glandulare.*—This case, sent by Dr. Gardner, is interesting on account of its great size, and from the fact that upon first sight it appeared to be one huge single cyst, completely filling up the lower abdominal region. There were, however, towards the lower and hinder portion a few small cysts connected with it, corresponding, it would seem, to the region of the original ovarian tissue, and upon the anterior wall could be felt three or four hardened areas, or "plaques," the largest being several inches in diameter. Upon opening the large cyst and removing the mucoid material contained, these flattened plaques could be seen projecting slightly into the interior. The specimen had been sent in order to determine the nature of these thickenings of the wall.

Waldeyer has divided the ovarian cyst-adenomata into two classes, which, it must be admitted, are not sharply separated, for a very large proportion of ovarian cysts, if carefully studied, must be placed under both of his headings. These are: (1) that of the "cystoma proliferum papillare," in which the connective tissue of the wall of the mother cyst undergoes great proliferation, forms papillomatous projections, and the papillæ, covered by a layer of epithelium, and coming into contact here and there, form thus the secondary cysts; (2) In the second class, or that of the "cystoma proliferum glandulare," it is the columnar epithelium lining the mother cyst that is the more proliferous, and that dipping down into the underlying connective tissue, there form follicles, which, becoming occluded, develop into the secondary cysts. Now, the plaques in this specimen, when examined microscopically, are seen to be composed of a relatively small amount of fibrous stroma, enclosing very numerous small follicles and cysts lined by a single layer of columnar epithelium, tending to invade the capsule of the mother cyst. Hence to this extent the tumour must be classed as an adeno-cystoma of the glandular type.

We have, therefore, in the series of examples brought before the Society, a not uninstructive series of the main forms of cystic growth in the ovary, the dermoid cysts alone being deficient. We have the Graaffian follicle, which, owing, it would seem, to coincident inflammation in and around the ovaries, forms a corpus luteum of great size and aberrant course, becoming either the seat of inflammatory change itself, so that the cavity contains eventually broken down cell material, puriform débris, or again becoming a cyst of moderate size filled with clear fluid. And again, we have a very fair example of the form of multilocular ovarian tumour of the more important type clinically, with regard to whose etiology there is still divergence of opinion.

Are the multilocular ovarian cysts, the cyst-adenomata, also developed, like the simple cysts above described, from Graaffian follicles, or have they another origin? The fact that the columnar epithelium lining them is of a simple type, that they and the tumour which they form are of an embryonic type, and that coincident with this more or less embryonic nature

the tumours are of fairly rapid growth and incline towards malignancy, are, on the whole, against the view that they develope from mature Graaffian follicles. And with Waldeyer and Malassez it is generally held that they are developed from an earlier stage: that just as the Graaffian follicles themselves originate from processes or follicles growing inwards from the epithelium covering the surface of the fœtal ovary, so these tumours arise from similar ingrowths in later life; and Malassez has seen such ingrowths from the surface, resembling a cylinder epithelioma. On the other hand, Ritchie states that he has observed the ovum or its remnant in the smaller cysts of a multilocular tumour, and these smaller cysts, like the Graaffian follicles, have limpid contents; while Galabin has seen processes similar to a cylinder epithelioma starting from Graaffian follicles, and not from the surface. There is, it appeared to Dr. Adami, no inherent improbability that the adenomatous growth should start from the adult (glandular) follicles, just as adenoma or carcinoma of the mammary gland is supposed to start from adult gland tissue in the mamma.

The matter might seem to be one of minor import, for the same original epithelium is implicated in both cases, the only question being as to the stage of development reached by that epithelium at the moment when the tumour begins to form. Nevertheless, it is one that has been much discussed, and a series of examples, such as those brought before the Society, might serve to start and illustrate a discussion on the subject.

Dr. Alloway, commenting on "Case I" of the series just discussed by Dr. Adami, said that since her last childbirth, 11 years ago, when she had puerperal fever, she suffered from pelvic pain, so severe as to almost incapacitate her for work; and that this history led him to suspect that she had wholly inflamed and adherent ovaries and tubes, and that there was also pus, possibly in an inspissated condition, in the tubes. He was pleased to find such was the case. In the operation he found great difficulty in separating the adhesions, which, from their density, must have been there for years. He ligated the tubes close to the uterus, where they were not inflamed. Good recovery.

Case II was a subperitoneal fibro-myoma, which is much

more common in the negress than in the white woman. The uterus was in ante-version; somewhat enlarged (9 centimetres in depth), but not sufficiently so to produce much hemorrhage. The fact of the tumour being entirely separated from the uterus simplified the operation; it was only connected to the uterus by a ligamentous band, which was covered with peritoneum; in fact, by a sort of meso-metrium. To cause the complete disappearance of all the symptoms, he thought it better to bring on the menopause, and, to do this, adopted Tait's operation—the removal of the appendages. This, where the uterus is not very much enlarged, is adequate, safer, and, therefore, a better operation than total extirpation. The tubes were found, on pathological examination, to be chronically inflamed.

Abdominal Section after Confinement.—Dr. Armstrong read a paper on this subject, which appeared in the July number.

Dr. England, referring to Case No. 3 of the series just reported, had nothing more to add to what Dr. Armstrong had so well expressed. The woman had a very satisfactory puerperal period. The giving of the enema was, or seemed to be, the beginning of her pain, which persisted till death. He saw her the same night as the enema had been given, and even a hypodermic of morphia could not relieve pain.

Dr. Lapthorn Smith dwelt upon the necessity of greater care being exercised by the accoucheur in cleansing the hands, and for this purpose he knew of nothing better than permanganate of potash and oxalic acid.

Relative to Case No. 3, he did not agree with Dr. Armstrong in thinking that a volvulus or obstruction was the cause of the trouble. Two pints of pus in the peritoneal cavity is more than could be manufactured in such a short time, and in his opinion it must must have been locked up somewhere in the form of an abscess, and during the administration of the enema it suddenly burst and flooded the cavity.

Dr. J. C. Cameron said that Dr. Armstrong's series of cases seem to confirm the belief that abdominal section is sometimes useful in local peritonitis, and that it is always hopeless in general septic peritonitis.

With reference to curetting, he said that this should be

done before the peritonitis was set up. Where there is a suspicion of any portion of the placental tissue being left in the uterus, we should not treat a rise of temperature with douching. Douching is not sufficient to remove any adherent membranes or placenta; nothing but the curette is sufficient in such cases. Here in Case 2, if the curette had been early used, the necessity for an abdominal section would have been spared. Interfere early and interfere thoroughly was his advice in all such cases.

He was not in accord with Dr. Smith in his absolute faith in permanganate of potash and oxalic acid as disinfectants. He thought it a dangerous doctrine to set forth that the thorough use of those agents on the hands does away with the necessity of any or all other precautions. In the abstract it may be correct to say that thorough disinfection makes previous occupation of no importance; but, in practice, it will be found unjust and unwise to counsel men that they may leave the post-mortem room and confine a woman with impunity, provided they wash their hands in permanganate and oxalic acid. It will be found that disinfection comprises much more than the cleansing of the fingers.

Dr. James Bell thoroughly agreed with Dr. Cameron's remarks regarding the insufficiency of manual disinfection. The truth of this is well seen in the hospital, where students, ever apt to seize upon the most prominent part of the technique, often confine their disinfection to washing the hands, etc., and neglecting other and very essential precautions.

Dr. Armstrong, in reply, said that relative to the Dr. Smith belief that the hands are the only source of infection in midwifery, it has lately fallen to his lot to see three cases, two of them fatal, occurring in the practice of accomplished, faithful, truthful men, who asserted that the children were born before they reached the house; that they never touched the vulva, never made a vaginal examination. Granting that the hands are the most important part, if you have a dirty field of operation, a dirty vulva; if you have fecal matter coming down, no matter how clean your hands are, you carry over the germs that are on that surface; you must have everything clean.

In regard to Case 3, and Dr. Smith's remarks about the two pints of pus, he said that he had no knowledge of any kind of peritonitis that could be present for nine days and give no symptoms; that, at the operation, puzzled with the obscurity of the case, the incision was enlarged and a most thorough examination of the cavity and its contents made, with a view to find an abscess or some such explanation for the quantity of the pus, but without success. In the face of these facts, unlikely as it appeared, the conclusion expressed was the only one left them.

In regard to operating in peritonitis, he agreed with Dr. Cameron; still there is no other hope for these patients, and while there is even the shadow of a chance by operating, he felt it is hard to refuse to undertake such a step.

THE CANADIAN MEDICAL ASSOCIATION.

(Reported by Dr. J. N. E. Brown, Official Stenographer of the Association.)

THURSDAY, Sept. 21st, 1893.

AFTERNOON SESSION.—*Continued.*

Dr. HODGE presented three cases of Friedreich's ataxia in one family, two sisters and a brother. Father had eczema of legs so badly that he was obliged to use crutches; also had leucoderma of hands. A paternal uncle suffered from hemeralopia. These were the only neurotic points in the family history. The first, M. W., aged 41, had a history of falling down stairs, having since then a weakness in the legs; got worse since she was ten years of age, now patient could not walk without support. Staggers while standing with eyes open; left alone falls forward; gait like one drunk. Leg muscles suffer only atrophy of disuse; legs sensible to pain, touch and temperature variation. Has pain now and then in right hip. Plantar reflexes normal; patellar increased. Feet in condition of talipes varus. Marked curvature of spine; upper extremity normal; pupils act normally. When she looks to either side there is marked horizontal nystagmus. Face not symmetrical, mouth drawn to left side; tongue on protrusion

turned to right and exhibits fibrillar twitching. All senses normal. The second, Sarah, aged 37, has suffered since she was 13, but nothing wrong with gait till six years ago, at which time she received a hurt in the knee; now she cannot walk without a cane; she would fall forwards if unsupported. In most respects she resembles her sister. Her speech is slow and not very plain.

The brother, aged 36, deformity of feet began at 15. When eyes were closed he would fall backwards. Gait wide-legged and zig zag and somewhat stamping. Lying down he can do all the ordinary movements of the legs. In prominent symptoms much like sisters'. Right hand is claw-shaped. Atrophy of muscles of hands. Left hand somewhat affected too. Curvature of spine. Suffers with excessive sweating.

Drs. Meyers, Macallum, Mills, Arnott and Moorhouse took part in the discussion, Dr. Hodge replying.

Dr. McKeough then followed by reading a paper on "Puerperal Eclampsia." In all cases the urine should be examined, more especially in primiparæ, who make up seven-eighths of the cases. Albuminuria, however, was not always followed by eclampsia. The prophylactic treatment should be directed to diet and the use of eliminatives. Fluid diet (milk being the best) should be recommended. Salines should be given to keep the bowels free, while for the skin nothing was so good as the daily hot bath for 20 minutes, the temperature on immersion 99° and gradually raised to 112°. Ice might be applied to the head and large quantities of water should be given the patient. If after this treatment the albuminuria is still present, labour should be induced. The process the reader of the paper then described. If any nervous symptoms showed themselves chloroform should be administered. One should always keep in mind in treating such cases three points in the etiology—heightened vascular and nervous tension; the presence of some poison, probably from the kidneys, in the system, and the presence of the fœtus in utero. If eclampsia comes on in spite of all previous treatment the steps should be, (1) sedative; (2) eliminative, and (3) induction of labour. The doctor referred

to venesection. In certain plethoric cases it might prove useful; but in trying it as a last resort in two of his own cases it did not save them. In 50 cases in Guy's in which it was performed 20 per cent. died. Immediately after in 34 cases where it was not used 20½ per cent. died.

Thursday Evening.

The report of the Committee *re* Inter-provincial Registration was presented by Dr. Praeger, in the absence of Dr. J. E. White, Chairman of the Committee. It proposed that a Dominion Medical Council be formed "to take general surveillance of the medical curriculum, and of all matters affecting the general public and profession of the whole Dominion," formed either by representatives (one each) from the members of the various Provincial Medical Councils, or elected by the medical population of Canada, irrespective of provincial lines; or on the "line of the British Medical Council." Its duties should be the equalization of the medical curriculum to a just and high standard; to secure inter-provincial reciprocity; to have the power to withhold or take away a Dominion license from a provincial graduate for a just cause; to approve all provincial examination papers before they were presented to candidates. There should be only one examination for the provincial and Dominion licenses, an extra fee for the latter. If it followed the British Medical Council in its formation, the British Medical Council regulations should be operative as applicable to the Dominion. All men now on provincial registers to be entitled to Dominion registration within one year of the formation of the first Dominion Medical Council, on payment of $10. All practitioners outside of Canada and Great Britain would be allowed a Dominion license upon passing the prescribed examination. All those on the British register would be entitled to registration upon payment of $25 as soon as Great Britain extended the same privilege to Canada. The Committee further recommended that the Association, through a committee, should present these views to the Provincial Councils, and by concerted action with them to apply at the next session of Legislature for

such permissive legislation as would be required to establish the powers and duties of the Dominion Medical Council. If any Provincial Council refuses to accede to the demands of the general profession for these objects, that this Association should instruct their delegates to go to the Legislature of such Province and secure the required concession.

Dr. PRAEGER moved its reception.

Dr. A. B. MACALLUM thought there were a great many difficulties in the way of bringing about the result desired in the report. The formation of a Dominion Council as recommended in the report would have to conflict with the various Provincial Legislatures which had under their control the subject of medical education. Such a council would be inert. One of the difficulties was that the graduates of universities in Quebec were granted licenses to practice, while this was not the case in Ontario. If such outside universities were granted such extended privileges, the Ontario, Manitoba and institutions of the other Provinces would be clamouring for their rights. Then, too, the courses of study in medicine in the various universities were much different. In Quebec, for instance, subjects were taken up which were regarded as foreign to medical education. Some of their universities demanded of the students a knowledge of Catholic history, metaphysics, etc., much to the dissatisfaction of the English minority. Dr. Macallum would strongly support a Dominion Council, but one with powers considerably different from those outlined in the presented report. A British Medical Council would answer our conditions far better than such a Dominion Council as proposed. He suggested that representatives of all the various councils and universities of the Dominion and Britain form a Council and that they, after debate, recommend after proper legislation, that the standard shall be raised in this or that subject of every Province. Then it would be easy to have the desired reciprocity. The report presented was a most ill-digested one.

It was moved by Dr. CAMERON and seconded by Dr. MACALLUM that the report be tabled. This carried.

Dr. WESLEY MILLS, of Montreal, then took up the subject,

"Peculiar Forms of Sleep or Allied Conditions." He gave a report of his observations of the arclomysmonas (wood-chick) during a period of five years, and more particularly during its season of hibernation. With the phenomena presented he compared strikingly similar phenomena in two or three cases in human individuals. Some of the points were the periodicity of the attacks of stupor, abstinence of food and consequent emaciation, great slowing of respiration and circulation, the partial cessation of stupor to attend to urination and defecation, the tendency to increased reflex action. The professor's account of the lethargic condition in man was listened to with exceeding interest, the cases, some of them being authentic, having come under his own observation. The professor, as an evolutionist, contended that these tendencies were analogous to those in the lower animals, and inherited, so to speak, from them. Although Dr. Mills takes this advanced view, he says he is inclined less than ever to pooh-pooh what is said regarding trances and other similar popular notions.

Dr. A. B. McCallum, of Toronto, while admiring Dr. Mills' able paper very greatly, took some exception to his views. He contended that pathological conditions in the subjects whose cases were cited caused the lethargy; no such change in the brains of the lower animal, so far as he knew, took place. The subject, however, was one of extreme interest in connection with medical psychology—a question of the relationship of periods of lengthened sleep to mental disease. Dr. Mills would be prepared, he said, to believe in the Rip Van Winkle legend. (Laughter.)

Dr. Cameron regretted that Dr. Mills had been obliged to omit the latter part of his paper, which dealt with the real nature of the hibernating and allied conditions. It would have been interesting to have heard a comparison between such various conditions as sleep, ordinary coma, the somnolent form of status epilepticus, etc. Regarding the pigmentary and fatty changes Dr. Mills spoke of, all were familiar. As to pathology, Dr. Cameron was inclined to think it was more a question of pathological chemistry than a gross pathological change.

Dr. H. A. McCallum gave Dr. Bucke's tide theory, that

sleep was influenced by or in the same manner as the tides. The child's sleep corresponded to the two periods of rest between the tides.

In replying, Dr. MILLS said that changes had been observed on examination of the brain cells of hibernating animals. He believed the object of the condition was for preservation of life. In winter, when it was difficult to get food, the wood-chick did with little or none. On account of his peculiar condition, inherited, no doubt, from his sluggish ancestors of ages ago, "Sleepy Joe" (one of the cases reported) found it agreeable to his constitution and economical to spend that portion of time when sustenance was difficult to obtain and weather inclement in the lethargic state. Regarding the Rip Van Winkle story, he (Dr. Mills) thought it was, like Shakespeare, a case in which the genius anticipated the science.

Dr. J. C. MEYERS, of Toronto, then read a paper on "Multiple Neuritis." He gave a brief history. Family history negative. Had for eleven years a suppurating knee; began from an injury. Always used to work. Two years ago had an attack of paralysis, from exposure to cold; recovery in ten weeks. Present illness began in July last. Noticed first stiffness in right foot, which soon attacked the left, then went to the hand. The stiffness changed to paralysis, legs and forearms becoming involved. Took to bed. No pain or abnormal sensations. Complete paralysis of the flexors of the ankles and extensors of the toes. Posterior tibial muscles weak. All forearm muscles affected, extensors most. Slight wasting of the affected muscles, particularly those of the thenar eminences of the hand. Marked hyperalgesia over the body. Tactile and temperature sense were exaggerated. Knee and elbow jerks lost, also skin reflexes. No paralysis of the ocular muscles. Discs normal. Health in other particulars good. Galvanic current shows A.C.C. is equal to K.C.C. From August 15th patient began to improve, and is continuing to do so. Power gradually returned, muscular nutrition increasing, and ability to walk returning, the walk being that of a "stepper." Myelitis was suggested as the diagnosis; this Dr. Meyers negatived by the distribution of the paralysis, integrity of the muscles, and

absence of bladder and rectum symptoms. He diagnosed it multiple neuritis, with a favourable prognosis. Treatment:—Salicylate of soda and warm baths; after a few days, strychnine and other tonics, with massage and electricity, were given.

The reader of the paper then gave a minute description of the pathological changes which take place in this disease,—the parenchyma being almost alone affected. The nerves most often affected were the anterior tibial and musculo-spiral. It was caused, it seemed, from a morbid state of the blood. This poison had a special affinity for nerve tissue. Modern pathology had enabled us to see that this was a separate disease from those with which it used often to be confounded, in which the lesions occurred in the central nervous system. Dr. Meyers pointed out the various differences between such diseases and multiple neuritis, both as regards pathology and symptomatology.

"Ophthalmic Memoranda" was the subject of Dr. A. Reeves' paper. He referred to the progress that had been made in ophthalmology since the introduction of such instruments as the ophthalmoscope; also in the treatment of such affections as trachoma, astigmatism, stricture of the lachrymal duct, etc. The speaker outlined the present treatment for such affections, and methods of employing surgical therapeutics where necessary. He discussed at some length the subject of sympathetic ophthalmia.

Dr. Osborne, in discussing the paper, spoke of the necessity of treating the nasal catarrh which was found in many cases of lachrymal duct affections. He also spoke of the great value of the ophthalmometer in astigmatism.

Dr. Reeves replied.

Dr. Harrison, the President elect, was then voted into the chair.

Votes of thanks were heartily given to the retiring President, the medical profession of London and the railroads.

Dr. Anglin moved that the usual honorarium be given to the Secretary.—Carried.

Mr. J. H. Chapman, of Montreal, had an extensive and beautiful array of all kinds of surgical instruments on the platform, which were much admired between sessions by the members of the Association.

THE

Montreal Medical Journal.

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THE PROPOSED HOSPITALS FOR INFECTIOUS DISEASES.

Through the wisdom and energy of a few members of the managing committees and medical boards of the General and Notre Dame hospitals, Montreal is likely to have two hospitals for infectious disease before long. It is in some senses unfortunate that it is necessary to have two distinct places for the treatment of infectious diseases, but any other arrangement would be impracticable in this dual city.

At a recent joint meeting of the Health Committee and representatives of the different hospitals, the former agreed to recommend that the proposition of the hospitals should be accepted. This proposition is that two distinct hospitals be erected, each to consist of several pavillions, and that the separate organizations be managed by one of the general hospitals. The city is asked to contribute the sum of $7,000 per annum to each hospital for 20 beds and 75 cents daily for each additional bed occupied ; the entire management to be under the lay and medical boards of the Montreal General and the Notre Dame hospitals.

There can be no question of the urgent necessity there is for immediate and complete provision for infectious cases. The only special provision for such cases open to the Protestant population in Montreal is the old brick annex of the General Hospital. Owing to its proximity to the new surgical wings, it has been found necessary to have it removed.

We, therefore, hope that the recommendations of the joint committee will be accepted by the Council. The General and Notre Dame hospitals have in their lay and medical officers men who are thoroughly competent in every respect to undertake the duties and responsibilities of the care and treatment of infectious cases.

The offer of a private society to undertake the management of infectious cases for a definite sum should not be entertained. Surely this province has had proof enough of the disastrous effects of farming out the sick and afflicted.

Equally undesirable would be the establishment of a civic hospital. Anyone who has visited civic hospitals in the neighboring republic will not be anxious to see them instituted in this city.

The formal opening of the Royal Victoria Hospital took place on the 2nd inst., His Excellency the Governor-General and Lady Aberdeen being present. In our next number a full account of the proceedings will be published.

Obituary.

Sir Andrew Clark, Bart.—Through the death of Sir Andrew Clark the English profession has lost one of its ablest representatives. He rose from humble ranks to occupy a most distinguished position. As a practitioner and clinical teacher he had few equals. He was born in Aberdeen, and received his medical education in the University of Edinburgh. Here he was brought under the influence of the late Hughes Bennett. While in Edinburgh he was also Assistant Demonstrator of Anatomy to Dr. Robert Knox in his final course of lectures. Few men were more highly honoured by their brethren than Sir Andrew Clark. He filled in succession the coveted appointments of the Croonian, Lumleian and Lettsomian lectureships of The Royal College of Physicians, London. He was appointed also to the presidency of the chief medical societies of London. He was Physician and Lecturer on Clinical Medicine at the London Hospital. Since 1888 he has been President of the

Royal College of Physicians. The able way in which he filled this important position is well known.

As a consulting physician he occupied for years the leading position in the great metropolis. His relations with his professional brethren were characterized by unfailing courtesy and kindness. The thoroughness of his investigation into every detail of a case at once gave confidence to the afflicted who sought his aid and counsel. He especially excelled in his knowledge of dietetics.

His published papers refer chiefly to diseases of the chest, those on fibroid phthisis and pleurisy being especially valuable contributions.

John M. Keating, M.D.—We regret to have to record the death of Dr. John M. Keating, of Philadelphia. Dr. Keating has made a number of valuable contributions to medical literature. His cyclopædia of children's diseases is a standard work.

Hugh McEwen, M.D.—Through the death of Hugh McEwen, of Carleton Place, on the 26th of October, the profession in Canada loses one of its most promising and rising members. Dr. McEwen graduated in McGill University in 1889, and after spending some time attending the Scotch hospitals, he started practice in Carleton Place, and soon made a reputation for himself.

F. W. Sherriff, M.D.—Another of our old practitioners has passed away, after a long and useful career. Dr. F. W. Sherriff died at his home in Huntingdon on Nov. 20th. A few days before he had fallen and broken his leg, and from the shock of this accident he never rallied, but passed over to the silent majority, at the age of 82.

Julius Sommerbrodt, Professor at the University at Breslau, an eminent medical authority and specialist, died at his home, August 14, 1893. Professor Sommerbrodt was the originator of the *intense* creosote treatment for tuberculosis, and he published a highly instructive and valuable report on his method. Deceased was distinguished in scientific circles, and prominent in the social life of the University town, as well as other cities throughout Germany, and he had many followers in America.

Personal.

Professor Bergmann has been elected Dean of the Medical Faculty of the University of Berlin for the coming year.

Medical Items.

— The International Medical Congress will meet in Rome from March 29th to April 5th, 1894.

— The number of students enrolled in the classes of the Medical Faculty of McGill University for the present session considerably exceeds that of any previous session.

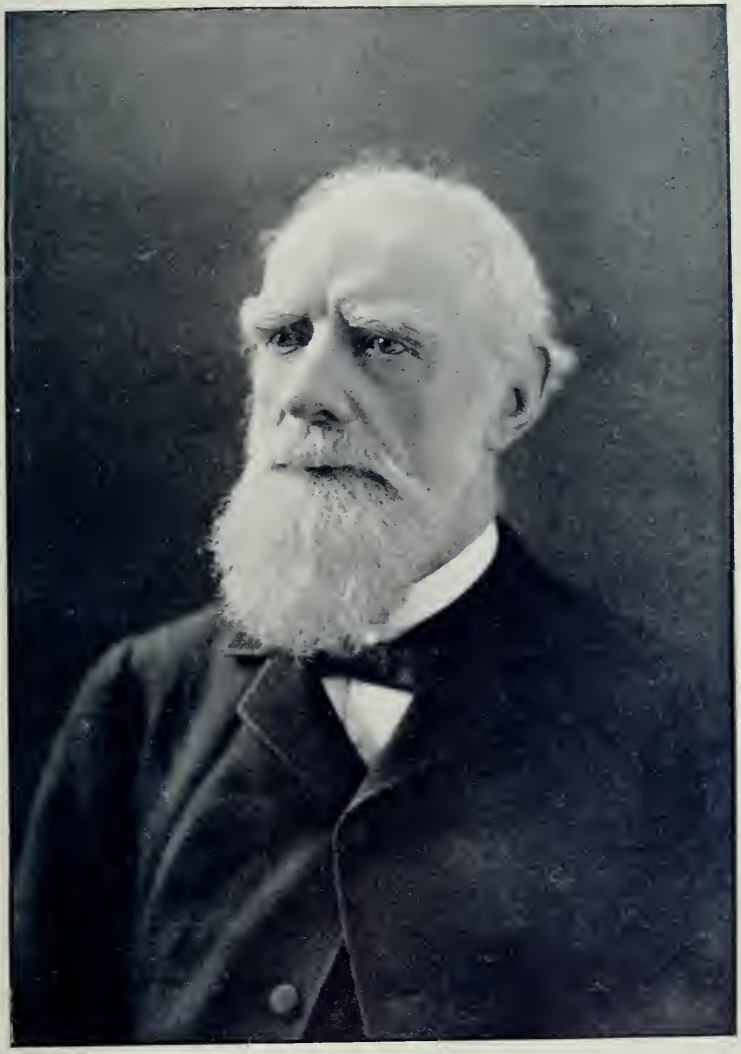
— Dr. Harold C. Ernst, of Harvard University, has discovered a new bacillus in the fluid removed from a case of pericardial effusion. When cultivated it develops a bluish-green colour, which gradually deepens after some days. It is turned red by acids, and bright green by alkalies. Dr. Ernst has given this bacillus the name of *bacillus pyocyaneus pericarditis.*

— The contributions to the Semmelweis Memorial from England and the colonies amounts to $400. It is to be hoped that this sum will be greatly increased. The father of antiseptic midwifery, like many another great man, received but little honour during his life. The memorial to him in his native city will prove a stimulus to future investigators.

Presentation.—A very pleasant event took place on Friday evening, the 20th October, at the Manse, Dalhousie Mills, when a few of the numerous friends of Dr. Walter C. Cattanach (McGill, '86) met to offer him an address and a handsome gold-headed cane, on his departure for Europe, with their sincere and hearty good wishes for his safe return to his native county, at no very distant date.

— A young doctor, wishing to make a good impression upon a German farmer, mentioned the fact that he had received a double education, as it were. He had studied homeopathy, and was also a graduate of a "regular" medical school. "Oh, dot vas nodding," said the farmer; "I had vonce a calf vot suckd two cows, and he made nodding but a common schteer, after all."

LORD MOUNT-STEPHEN.



SIR DONALD A. SMITH.

THE

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Original Communications.

THIRTY-EIGHT YEARS OF McGILL.

BEING THE ANNUAL UNIVERSITY LECTURE OF McGILL UNIVERSITY, MONTREAL, FOR THE SESSION OF 1893-94.

BY SIR WILLIAM DAWSON, C.M.G., LL.D., F.R.S., &c.

Having been invited by the acting Principal and the Corporation to deliver once more the annual University lecture, this has appeared to be an occasion on which you would bear with me in tracing some of the footsteps of the past, as a suitable close to the official work of nearly a lifetime, and as a farewell address to the friends and colleagues with whom I have laboured so long and with so much happiness to myself. We may have perfect faith in the practical wisdom of the apostolic maxim, "forgetting the things that are behind, press forward to those that are before." Yet we may have equal faith in recalling the memories of the past, in "remembering the mercies that are of old," as well as the errors and shortcomings of former years, that we may draw lessons from all as to the present and the future. It may, for instance, be interesting, perhaps even useful, to young men, to know how I first became connected with McGill.

My plans for life lay in an entirely different direction. I had prepared myself, as far as was possible at the time, for field work in geology; and my ambition was to secure employment of this kind; or next to this, to have the privilege of teaching my favourite science, with sufficient spare time to

prosecute original work. In connection with this ambition, after having attained some little reputation by papers published under the auspices of the Geological Society of London, I accepted an invitation to deliver a course of lectures on geology and allied subjects in Dalhousie College, Halifax, in the winter of 1849-50. When in Halifax, I had some conversation with Messrs. Young and Howe, afterwards Sir William Young and Sir Joseph Howe at that time governors of Dalhousie College and the leaders of the Provincial Government, as to a new school-law they were preparing for Nova Scotia, and in which important improvements were introduced. I had at the time no thought of being connected with the administration of the Act. In the following spring, however, I was surprised with the offer of the position of Superintendent of Education, established under the new law. I had many reasons for declining the task, but my friends would take no refusal, and I consoled myself with the consideration that the visitation of the school districts throughout the province, which was one of the duties of the office, would give great facilities for making myself acquainted with the geology of the country. For three years I was engaged in this work, and, besides writing educational reports, and administering the new school law, conducting an educational journal, visiting schools, and holding teachers' institutes, had collected the materials for several papers published in England, as well as for my "Acadian Geology," which, however, did not appear till 1855. In 1852, when on a geological excursion with my friend Sir Charles Lyell, I was introduced by him to Sir Edmund Head, the Governor of New Brunswick, who was much occupied at the time with the state of education in that province, and in particular that of its provincial university; and in 1854 he invited me, along with the late Dr. Ryerson, to be a member of a commission which had been appointed to suggest means for the improvement of the provincial university. This work was scarcely finished when Sir Edmund was promoted to be the Governor-General of Canada, and removed to Quebec, where, under the new charter granted to McGill College in 1852, he became Visitor of the University; and as he was known to be a man of pronounced literary and scientific tastes, and an active worker in the reforms then recently car-

ried out in the English universities, the Governors of McGill naturally counted on his aid in the arduous struggle on which they had entered. Accordingly, soon after Sir Edmund's arrival, a deputation of the Board waited on him, and one of the subjects on which they asked his advice was the filling of the office of principal, which was yet vacant. Sir Edmund mentioned my name as that of a suitable person. At first, as one of them afterwards admitted to me, they were somewhat disconcerted. They were very desirous, for the best reasons, to follow Sir Edmund's counsel, but with his knowledge of the available men in England, of some of whom they had already heard, they were somewhat surprised that he should name a comparatively unknown colonist. In the meantime, ignorant of all this, I was prosecuting a candidature for the chair of natural history in my Alma Mater, the University of Edinburgh, vacant by the death of Prof. Edward Forbes, and in which I was strongly supported by the leading geologists of the time. By a strange coincidence, just as I was about to leave Halifax for England in connection with this candidature, intelligence arrived that the Edinburgh chair had been filled at an earlier date than my friends had anticipated, and at the same time a letter reached me from Judge Day offering me the Principalship of McGill. I had determined in any case to visit England, to attend the meeting of the British Association in Glasgow, and to thank the many friends who had promoted my Edinburgh candidature; but postponed my departure for a week that I might consult my family, and decided to accept the Montreal offer, provided that a professorship of geology or natural history were coupled with the office. Thus it happened that I became connected with McGill in its infancy under its new management, and the story forms a striking illustration of the way in which Providence shapes our ends, rough hew them as we may. Its lesson is that young men should qualify themselves well for some specialty, but should also be sufficiently general in their training to adapt themselves to new and unforeseen pursuits.

As I have referred to Sir Edmund Head, I may say that he continued to be an active friend of the University during his term of office and after he returned to England. This is true also of his successors, all of whom have shown a kindly inter-

est in our work, so that our Visitor has all along been a power for good. The present Governor-General has already by his presence and words of cheer on a recent public occasion, given an earnest that in this respect he will, like his predecessors, prove a warm friend and kindly patron of the higher education in Canada.

When I accepted the principalship of McGill, I had not been in Montreal, and knew the college and men connected with it only by reputation. I first saw it in October, 1855. Materially, it was represented by two blocks of unfinished and partly ruinous buildings, standing amid a wilderness of excavators' and masons' rubbish, overgrown with weeds and bushes. The grounds were unfenced and pastured at will by herds of cattle, which not only cropped the grass, but browsed on the shrubs, leaving unhurt only one great elm, which still stands as the "founder's tree," and a few old oaks and butternuts, most of which had to give place to our new buildings. The only access from the town was by a circuitous and ungraded cart-track, almost impassable at night. The buildings had been abandoned by the new Board, and the classes of the Faculty of Arts were held in the upper story of a brick building in the town, the lower part of which was occupied by the High School. I had been promised a residence, and this I found was to be a portion of one of the detached buildings aforesaid, the present east wing. It had been very imperfectly finished, was destitute of nearly every requisite of civilized life, and in front of it was a bank of rubbish and loose stones, with a swamp below, while the interior was in an indescribable state of dust and disrepair. Still, we felt that the Governors had done the best they could in the circumstances, and we took possession as early as possible. As it was, however, we received many of the citizens who were so kind as to call on us, in the midst of all the confusion of plastering, papering, painting and cleaning. The residence was only a type of our difficulties and discouragements, and a not very favorable introduction to the work I had undertaken in Montreal.

On the other hand, I found in the Board of Governors a body of able and earnest men, aware of the difficulties they had to encounter, fully impressed with the importance of the

ends to be attained, and having sufficient culture and knowledge of the world to appreciate the best means for attaining these ends. They were greatly hampered by lack of means, but had that courage which enables risks to be run to secure important objects. I may mention here a few of these men. Judge Day was a man of acute legal mind, well educated and well read, a clear and persuasive speaker, and wholly devoted to the interest of education, and especially to the introduction into the college course of studies in science and modern literature. Christopher Dunkin was a graduate of the University of London, educated first in Glasgow, and afterwards in University College, and who had held a tutorial position in Harvard before he came to Canada. He had made college work and management a special study, and was thoroughly equipped to have been himself a college president or principal, had he not had before him the greater attractions of legal and political success. Hew Ramsay was an admirable example of an educated Scotsman of literary tastes and business capacity. David Davidson was also a product of Scottish college training and a warm and zealous friend of education, with great sagacity and sound judgment. James Ferrier should have been mentioned first He was a member of the old Board of Royal Institution and senior member of the new, but voluntarily resigned the presidency in favor of Judge Day, in the interest, as he believed, of the University. He was longer with us than any of the others, and no man could be a more devoted worker in the cause of education, Such men as these and their colleagues ensured public confidence and a wise and enlightened management.

The teaching staff of the University then consisted of three faculties, those of law, medicine and arts. The Faculty of Law, then recently organized, had two professors and two lecturers. The Faculty of Medicine, the oldest and most prosperous of the three, had ten professors and a demonstrator. The Faculty of Arts had four professors and a lecturer, and all of these except one gave only a part of their time to college work. They were, however, able and efficient men. Dr. Leach, who represented philosophy and allied subjects, was a man of rare gifts and of warm attachment to the college; Dr. Davies, a man of great learning, was shortly afterwards ap-

pointed to Regent's Park College, London; Dr. DeSola was an expert in Oriental languages and literature, and Mr. Markgraf represented modern languages, while Dr. Howe gave what time he could spare from the High School to his favorite mathematical and physical subjects. My own lectures in natural science came in aid of this slender staff, raising the professoriate in Arts to six. It was well for me that the Dean of the Medical Faculty, Dr. Holmes, was a man of scientific tastes and an accomplished mineralogist and botanist, as this led at once to my lectures being taken advantage of by the medical students as well as those in Arts. Thus, while the whole students in Arts were only at that time 15, I began a course of lectures in 1855 with a large class, attended by some of the medical professors and by gentlemen from the city, as well as by the students. At the same time a good deal was done to perfect and render more definite the course in Arts, which, even in the session of 1855–6 was becoming so moulded as to bear some resemblance to its present arrangements, and to foreshadow, at least, the anticipations of my inaugural address of November, 1855, most of which have since been realized. The University at this time had no library and no museum, and its philosophical apparatus was limited to a few instruments presented to it some time before by the late Mr. Skakel. I had to use my own private collections and specimens borrowed from the Natural History Society to illustrate my lectures. The High School, under the rectorship of Dr. Howe, was an affiliated school, and we could look to it as likely in a few years to furnish us with a larger number of students—a hope not disappointed.

But our great difficulty was lack of the sinews of war; and the seat of government being at the time in Toronto, I was asked to spend my first Christmas vacation in that city with the view of securing some legislative aid. There was as yet no direct railway communication between Montreal and Toronto, and of course no Victoria Bridge. I crossed the river in a canoe amidst floating ice, and had to travel by way of Albany, Niagara and Hamilton. The weather was stormy and the roads blocked with snow, so that the journey to Toronto occupied five days, giving me a shorter time there than I had anticipated. I received, however, a warm wel-

come from Sir Edmund Head, saw most of the members of the Government, and obtained some information as to the Hon. Mr. Cartier's contemplated Superior Education Act, passed in the following year, and which secured for the first time the status of the preparatory schools, while giving aid to the universities. I was also encouraged by Sir Edmund and Cartier to confer with the Superintendent of Education and the Governors of McGill, on my return to Montreal, with reference to the establishment of a Normal School in connection with the University, which was successfully carried out in the following year. I may here remark, in passing, that the McGill Normal School has, in my judgment, been one of the most successful institutions of its kind. It has proved indispensable to the growth of our provincial education of every grade, has indirectly aided the University, has been deservedly popular throughout the country, and has had the good will and support of the successive superintendents of education, and of the provincial governments of both political parties.

The direct aid, however, which could be obtained from the Government was small, and the next movement of the Board of Governors was our first appeal to the citizens of Montreal, resulting in the endowment of the Molson chair of English Language and Literature, with $20,000 (subsequently augmented to $40,000 by Mr. J. H. R. Molson) and $35,000 from other benefactors. This was a great help at the time and the beginning of a stream of liberality which has floated our university barque up to the present date. In connection with this should be placed the gift of the Henry Chapman gold medal, the first of our gold medals. The liberality of the citizens in 1857 encouraged the Board of Governors to strengthen and extend the teaching staff in Arts by the appointment of Professors Johnson and Cornish and shortly afterward of Professor Darey, who still, after all these years of arduous and faithful service, remain to the university, and are now the senior members of the professoriate.

To counterbalance these successes and advantages, in the early part of 1856 the building occupied by the High School and by the Faculty of Arts was destroyed by fire, along with some of the few books which had been collected and some of our apparatus, and a large part of my private collections

which I had been using for my lectures. The specimens, apparatus and books were not insured, and the insurance on the building was quite insufficient to replace it, so that this was a great pecuniary loss, but one which our Governors bore with admirable fortitude and equanimity, and took immediate steps to repair. For the remainder of the session the college classes were transferred in part to the original college buildings above Sherbrooke street, and in part to the Medical Faculty's building on Coté street. The classes were not interrupted, and plans were at once prepared for the erection of a new and better building.

The year 1857 was signalized not only by the opening of the McGill Normal School and by the addition to our staff already noted, but by the institution of a chair of Civil Engineering, the first small beginning of our Faculty of Applied Science. At the same time, in the hope that the Faculty of Arts might be able before many years to occupy permanently the college buildings, the improvement of the grounds was begun by planting, draining and making walks. At first I did this at my own cost, as a labour of love, with the aid of the late Mr. Sheppard in laying out the walks, merely asking permission of the Board. Dr. Howe, who resided at that time in the centre building, gave some aid, and the new secretary, Mr. Baynes, took a deep interest in the matter. The graduates undertook to plant trees along one of our walks, and eventually the Board gave small sums toward this object, and at a later day appointed a caretaker, for whom a lodge was erected by a subscription among our friends.

We had proposed that so soon as the students in arts should exceed fifty we would venture to occupy the old building. This happened in 1860, and we accordingly proceeded to move up and take possession of the centre block, the east wing being used for residences. The movement was a fortunate one, for it suggested to our friend, Mr. William Molson, the erection of a third block, corresponding to the eastern one, to be named the William Molson Hall, and which was to contain the convocation room and library. This was the original limit of Mr. Molson's intention; but, driving up one day, in company with Mrs. Molson, to note the progress of the work, she suggested that it would be a pity to leave it unfinished,

and that it would be well at once to connect the three blocks of buildings in one pile, according to the original plan. The hint was taken, plans were prepared, and one of the connecting buildings became our first museum, while the other provided a chemical and natural science class room and laboratory. Both buildings, as well as the library, were seeds of greater things. The library was provided with shelves for 20,000 volumes, while we possessed less than 2,000, and at first it was distressing to see its emptiness, but the time has long passed when, after crowding it with additional book-cases and extending it into an adjoining room, we began to desire larger space, now happily supplied by the magnificent Peter Redpath Library. The museum, equally empty, received in the first instance a portion of my own collections, and others obtained in exchange and by purchase from my own resources. In this way it was possible almost from the first to fill it respectably, for a museum without specimens is even more forlorn than a library without books. Dr. Carpenter's magnificent collection of shells was added in 1869. The whole furnished the nucleus for the Peter Redpath Museum, which stands at the head of Canadian educational museums. The other connecting building became the home of our chemistry and assaying, in which Dr. Harrington, with the aid for a time of the late Dr. Sterry Hunt, built up our schools of Practical Chemistry and of Mining and Assaying, which have trained so many young men for useful chemical and manufacturing employment, for mining enterprises and for the Geological Survey, and have sustained indirectly the honour course in geology in the Faculty of Arts. Thus our resuming possession of the old buildings was successful and fruitful of new enterprise, and Mr. Molson's timely aid laid the foundation of greater successes in the following years.

About this time a number of our graduates resident in Montreal formed themselves into the nucleus of a university society, which has continued to grow and expand up to the present time, and has still room for further extension, more especially by the formation of branch or local associations, of which the Ottawa Valley Graduates' Society has set the first and a brilliant example. One of the early efforts of this society, at the time under the presidency of Brown Chamberlin, M.A.,

D.C.L., was the institution of the Founder's Festival, a social gathering on Mr. McGill's birthday. It was continued with spirit for some years, but failed to attract graduates from a distance, and was ultimately dropped in favour of other movements. The time may shortly come for its revival.

In 1860 we entered on the new departure of affiliating colleges in arts, by the affiliation of St. Francis College, Richmond, and this was followed in a year or two by Morrin College, Quebec. In this matter the President of the Board of Governors, Judge Day and the Hon. Judge Dunkin were very earnest, believing that these affiliated colleges might form important local centres of the higher education, and might give strength to the university. They have not, it is true, grown in magnitude as we had hoped; but so far they have maintained a useful existenre, and have unquestionably done educational good; and, more especially; have enabled some deserving and able men to obtain an academical education which would otherwise have been denied them. In the circumstances of the Protestant population of the Province of Quebec, this is an end worthy of some sacrifice for its attainment. The only additional college of this class is that of Stanstead, added at a comparatively recent date. In 1865 the Congregational College of British America, an institutiou for theological education only, was removed to Montreal and became affiliated to the university, and has been followed by three other theological colleges. The value of these to the university no one can doubt. They not only add to the number of our students in arts, but to their character and standing, and they enable the university to offer a high academical training to the candidates for the Christian ministry in four leading denominations, thus rendering it helpful to the cause of Protestant Christianity, and enabling us to boast that we have aided in providing for the scattered Protestant congregations of this province a larger number of well-educated pastors than they could possibly have obtained in any other way, while the ministers sent out into the country have more than repaid us by sending students to the classes in all our faculties. Our system in this respect, which has been imitated elsewhere, presents, for colonial communities at least, the best solution of the question of how to combine Christian usefulness with freedom from denominational control.

The year 1870 brings me to the beginning of a most important movement not yet completed, but which has already proved itself a marked success—that for the higher education of women, respecting which a few chronological statements may be in place here. At a meeting of citizens convened by the Board of Governors in the early part of the year 1870, for the purpose of soliciting additional endowments, a resolution was moved by the late Dr. Wilkes, and unanimously adopted, to the effect that the university should, at as early a date as possible, extend its benefits to women. It is true that no special endowments for the purpose were at this time offered, nor were there any applicants for admission; but, in spending the summer of 1870 in England, my wife and I made it our business to collect information respecting the movements in this matter then in progress in the Mother Country. The conclusion at which we arrived was that in our circumstances the methods of the Ladies Educational Association of Edinburgh were the most suitable; and seconded by Mrs. G. W. Simpson, whose experience and influence as an educator were of the highest value, we endeavoured to promote such an organization in Montreal. At a meeting of ladies, convened by our friend Mrs. Molson, of Belmont Hall, in her drawing-room, the preliminaries were agreed on, and the classes were opened in October, 1871, on which occasion I delivered the introductory lecture. This association conducted an admirable and most useful work for fourteen years, until its place was taken by the Donalda Special Course for Women.

About the same time with the organization of the Ladies' Educational Association, two other movements occurred bearing on the same question. One was the foundation by former pupils of Miss Hannan Willard Lyman of an endowment in commemoration of that gifted lady, and the income of which was to be expended to found a scholarship or prize "in a College for Women" affiliated to the University, or in classes for women approved by it. This endowment was used in the first instance for prizes in the classes of the association, and its terms furnished an indication as to the prevailing sentiment with respect to the education of women, and were in accordance with the fact that Miss Lyman had been the lady principal of one of the greatest and most successful colleges

for women in the United States. The other, and practically more important, was the establishment of the Girls' High School of Montreal. This was suggested by the Rev. Dr. Jenkins, the chairman of the Protestant commissioners of schools, in his report for 1871, and after some delays, owing to the claims of other objects, I moved, as a member of the Board, in February, 1874, the appointment of a committee with power to establish such a school. The committee acted promptly, prepared a plan, recommended teachers, and engaged a temporary building, and the school came into operation in the autumn of 1874. In moving in this matter I fully expected that the establishment of a school giving the training necessary for our matriculation examination would lead in a few years to a demand for college education on behalf of the passed pupils of the school, but trusted that means would be found to meet this when it should arise, though I deprecated any premature action on the part of the University itself in this direction. The attention of the corporation was directed to the subject by the Rev. Dr. Clark Murray in 1882, and the matter was referred to a committee to collect information; but the demand did not actually develop itself till 1884, when several pupils of the Girls' High School had distinguished themselves in the examination for associate in arts, and formal application was made by eight qualified candidates for admission to University privileges. At first the only resource seemed to be to appeal to the public for aid in this new departure; but at the moment when the difficulty pressed, Sir Donald A. Smith voluntarily came forward with an offer of $50,000 to provide separate classes in Arts for women for the first and second years, leaving the question of how their education was to be continued afterwards in abeyance. This generous offer was thankfully accepted by the University, and thus our classes for women were commenced in 1884. Subsequently the same liberal benefactor increased his gift to $120,000 to continue the work over the third and fourth years, and besides contributed $4,000 annually in aid of sessional lecturers, while the corporation, without hesitation, admitted the women to all the privileges of examinations and degrees. Under these arrangements the Donalda special course for women has been going on successfully for eight years; but it still remains to

carry out the development of the liberal plans of the founder into a separate college for women affiliated to the University. In this form, and with a suitable building in proximity to the other buildings of the University, and aided by our library, museum and laboratories, it cannot fail to attract a much larger number of students and to become more than ever a leading department of the work of the University.

Reference has been made to the Examinations for Associate in Arts. These were established in 1865, and at first were limited to pupils of the High School. With the aid of the University of Bishop's College and the Protestant Committee of the Council of Public Instruction, they have now been extended to all the Protestant Academies and High Schools, and have become an important factor in the higher education.

In 1880, on occasion of the twenty-fifth year of my tenure of office as principal, I endeavoured to assemble its graduates at a banquet in the William Molson Hall. Much labour was necessary to secure accurate information as to their addresses, and this was made the means of preparing the first directory of the graduates. Eight hundred and fifty cards of invitation were issued, and answers expressing sympathy and affection for Alma Mater were received from nearly all. The result was that 360 gentlemen, nearly all graduates of the University, were able to attend and to take their seats at the tables occupying the hall. At this entertainment, after a few words of welcome to the guests and the usual toasts, addresses were delivered by representatives of the different bodies and interests connected with the University, and by representatives of sister institutions. The topics were naturally those connected with the past history and present state of the University; and the part which its governors principal and fellows, its benefactors and its graduates had taken in elevating it to the condition to which it had attained, and in advancing the interests of education. As to the future, the evening was signalized by the announcement of the intention of Peter Redpath, Esq., one of the governors, to erect a costly and capacious museum building on the college grounds, and that of the Principal to place therein, as a gift to the University, his own large geological collections, and the further announcement that the graduates proposed to commemorate the twenty-fifth year of

the Principal's tenure of office by the erection of a university building to bear his name. The entertainment being a private one, reporters were not admitted, which, perhaps, was an error, as it would have been interesting now to have preserved a record of the addresses, more especially of those delivered by men who have since passed away. It had been hoped that entertainments of this kind might have been continued, but the labour and cost of meetings of scientific associations prevented this for the time.

The university should, I think, take a large share of credit for the success of the meetings of the American Association for the Advancement of Science in Montreal in 1857 and 1882, and the still more important meeting of the British Association in 1884. University men worked earnestly in aid of these meetings, the use of the college buildings contributed materially to their accommodation, and the results tended in many ways to the promotion of science in Canada. Such meetings, by bringing among us eminent men, widely known abroad, and by directing special attention to new scientific topics, contribute greatly to our advance in national improvement, and in placing us abreast of the scientific movement in other countries. Each of these meetings has had its influence in these respects, and has marked a distinct step in our upward progress.

I have referred in these reminiscences to the financial affairs of the university. In this respect we have always been in straitened circumstances, but relief has often come just at our time of greatest need, though there have always been important fields of usefulness open to us, but which we had not means to enter on. Our last public appeal is thus referred to in a publication of the time: "At the close of the financial year 1880-81, our income had ebbed in a most threatening manner. Being derived mainly from mortgages on real estate, it had run some risks and experienced a few losses in the commercial crisis of the preceding years. But when the tide of commercial prosperity turned, a greater calamity befell us in the fall of the rate of interest, which reduced our revenue by nearly 20 per cent., and this at a time when no decrease of expenditure could be made without actual diminution of efficiency." In these circumstances the Board of Gov-

ernors found it necessary to insist on most unwelcome retrenchments, injurious to our educational work, and which some of us would have been glad to avert, even by much personal sacrifice and privation. At length, on the 13th of October, 1881, we convened a meeting, not happily of our creditors, but of our constituents, the Protestant population of Montreal, and our position and wants were laid before them most ably, and, I may say, even pathetically, by the chancellor, Judge Day, and the honorary treasurer, Mr Ramsay. The meeting was a large and influential one, and I shall never cease to bear in grateful remembrance the response which it made. There was no hint of blame for our extravagance, no grudging of the claims of the higher education which we represented. but a hearty and unanimous resolve to sustain the university and to give it more than the amount which it asked. The result of the meeting was the contribution of $28,500 to the endowment fund, besides $26,335 to special funds, including the endowment of Mr. W. C. McDonald's scholarships, and of $18,445 in annual subscriptions, most of them for five years. But this was not all, for it was followed by two of those large and generous bequests of which this city may well be proud. Major Hiram Mills, an American gentleman, resident for twenty years in Montreal, and familiar with the struggles of the university, left us by will the handsome sum of $43,000 to endow a chair in his name, as well as a scholarship and a gold medal. On this endowment the Governors have placed the chair of Classical Literature. More recently our late esteemed friend and fellow-citizen, Mr. David Greenshields, has added to the many kind actions of a noble and generous life the gift of $40,000 for the endowment of a chair to be called by his name (the David J. Greenshields chair of Chemistry).

It is perhaps unnecessary that I should continue this subject further. The great steps in advance of the last few years are known to nearly all who hear me. In so far as money is concerned, these gifts include the following: The Thomas Workman endowment for Mechanical Engineering of $117,000, supplemented by $20,000 from Mr W. C. McDonald; the W. C. McDonald Engineering Building, valued, with its equipment, at $350,000, and an endowment of $45,000 for its maintenance, and also the endowment of the chair of Electri-

cal Engineering with the sum of $40,000; the erection and equipment by the same gentleman of the Physics Building, valued at $300,000, with two chairs of Physics with endowments amounting to $90,000; the endowment of the Faculty of Law by the same benefactor with $150,000, and the endowment of the Gale chair in the same faculty with $25,000; the large gifts to the Medical Faculty by Sir D. A. Smith and Mr. J. H. R. Molson and other benefactors, amounting to $269,000: the late John Frothingham principal fund of $40,000, founded by Mrs. J. H. R. Molson and the Rev. Fred'k Frothingham: the purchase of land valued at $42,500 by Mr. J. H. R. Molson; the further endowment by the same gentleman of the chair of English Literature with $20,000; the Philip Carpenter Fellowship with endowment of $7,000; the Peter Redpath Library, valued at $150,000, with $5,000 annually for its maintenance. In the aggregate, these gifts of citizens of Montreal within the past four years amount to more than a million and a half of dollars. Many minor gifts also testify to the goodwill and liberality of the citizens generally. These great benefactions are not only a vast addition to our resources, but an earnest for the future, since it is not to be supposed that so great and useful endowments, attracting so many students and so highly appreciated by the public, shall ever be left to fall into decay, or fail to be supplemented by additional benefactions. It is to be observed also that the greater part of them have been given by men not graduates of the university, and it is to be expected that as our graduates increase in number, influence and wealth, some return will flow in from them for the benefits they have received. They need not think that their gifts will be declined. There are still great needs to be supplied. These may be ranged under the three heads of the professional faculties, the academical faculty and the university as a whole.

In the former, the Faculties of Law, Medicine and Veterinary Science are still deficient in regard to class rooms and laboratories. The Faculty of Applied Science is still unprovided with necessary outfit in reference to the departments of mining engineering and practical chemistry. It is, however, the academical faculty or Faculty of Arts that is in most need. It requires large additions to its staff, and more especially division of the heavier chairs. In this connection it

should be observed that it is burdened with the general education of students of professional schools as well as with the training of its own students. It is also in great need of improved class-rooms and extended accommodation of every kind for its work. The university as such needs a new gymnasium, lodging houses and a dining hall, and an adequate convocation hall, with proper rooms for university boards and general college societies and for university officers. It is not too much to say that in securing these ends the great benefactions already given might profitably be doubled. That these things will all be done in process of time I have no doubt, but it should be remembered that class after class of students is going forth into the world without having enjoyed these benefits. I have a large packet of papers labelled unfinished and abortive schemes, containing the details of these and other plans. I value these papers very highly, as representing creative thought not yet materialized, but I am quite willing to part with any of them to any benefactor who will carry it into actual effect. While personally it is necessarily a matter for regret that I cannot continue in office till the great improvements to which I have referred are realized, it is at least something, after our long and arduous journey through the wilderness of penury and privation, to see even afar off the goodly land into which my successors are entering, and in the enjoyment of which, I trust, they will forgive the shortcomings of those who had to lead the way, and will not forget the dangers and difficulties of the thorny paths through which we have passed.

One feature, however, of our history for which we cannot be too deeply thankful, is the comparative peace and mutual forbearance which have prevailed in all the past years, and the united and earnest action of all the members of the University in every crisis of our long conflict. Nor have we had any reason for anxiety respecting our students. I confess that if there is anything I have feared and have constantly prayed to be exempt from, it has been the possible occurrence of those rebellions and disorders that have troubled so many colleges on this continent. For this exemption I do not take credit to myself. McGill has had an able and devoted governing Board, a body of competent, diligent and popular profes-

sors, derived from a large number of different universities on both sides of the Atlantic; and the Canadian student is on the whole a hard worker, good-natured and patriotic, and not too self-asserting. Nor is our system of college government a cast-iron constitution which has been set up by an act of legislation. It has grown up under experience and careful adaptation of methods to needs. In McGill each faculty exercises jurisdiction over its own students, the executive officer being the dean of the faculty. The principal intervenes only when desired to give advice or assistance, or when any case arises affecting students of different faculties; and the power of expelling students resides only in the corporation—a body including the governors, the principal, and all the deans of the faculties, with elective representatives of the faculties, of the affiliated colleges, and of the graduates. Under this system it is understood that each professor is supreme in his own class-room, but his power of discipline is limited to a temporary suspension from lectures, which must be at once reported to the dean. If necessary, the dean may lay the case before the faculty, which, after hearing, may reprimand, report to parents or guardians, impose fines, suspend from classes, or, in extreme cases, report to the corporation for expulsion. No case involving this last penalty has, however, yet occurred, and the effort has been to settle every case of discipline by personal influence and with as little reference to laws and penalties as possible. With this machinery a simple code of rules is sufficient. It provides for orderly and moral conduct in the buildings and in going and coming, and for the safety of the property of the University, and prohibits all action likely to obstruct the work of the college or to interfere with the progress of other students. In the case of college societies it is required merely that their objects shall be consistent with those of the University, and that their laws and officers shall be communicated to and approved by the faculty in whose rooms they meet. Above and beyond all such machinery and rules, lies the obligation on principal, deans and professors to watch the beginnings of evil and to counteract by wise and kindly advice anything that may lead to disorder. On the other hand, the effort of the student should be to exercise all that liberty which tends to make him self-reliant and fit for

the battle of life, while he endeavours to avoid the formation of any habits inimical to the interests of his fellow-students or injurious to himself. In all this I proceed on the assumption that it is the business of a university to train young men and women for noble lives, not so much to teach them to do something as to train them to be something. Perhaps the tendency most to be feared in our age and country is that towards practical and profitable work without the previous education that should develop fully the mental powers and form the character. This tendency it is the duty of the university by all meaes to counteract, as one that will lower our national character and thereby prevent our highest success. This principle being kept in view, the cultivation of interest and enthusiasm for college work at once secures progress and peace. In short, the control of young men or young women is to be exercised rather in the way of inducing them to like their work and duty than by any influence of the nature of coercion or restraint. In this way only can they be trained to control themselves and, when their turn comes, to control others. They who would rule must themselves learn willing obedience. Of course, there is place here for all the elevating influence of spiritual religion, and there is scope for that most important power which arises from the example of punctuality, self-denial and honest work on the part of the professors. I fervently pray that the good traditions of McGill in all these respects may ever be maintained.

The religious life of McGill University has been of a quiet and unofficial charactar We have not sought to make any parade of religious services as such, but by personal influence and example to foster piety among the students and to facilitate as far as possible their taking advantage of the religious privileges afforded in the city. In this connection I attach paramount importance to the spontaneous action of the students themselves, more especially as manifested in their Christian Associations. These have, I think, been sources of unmixed good, and have largely contributed to maintain and extend religious life. I could wish that they should have from the university or its friends means to provide proper accommodation for meetings and social reunions, and that the utmost aid and countenance should be extended to them by the college authorities.

My function in this university has been that of a pioneer; and viewed in this light it has not been compatible with the dignity and the authority which are usually attached to the heads of more firmly established colleges in older countries. It is time, however, that this should be changed, and my successor should enter upon office under more favourable conditions than those of the feeble and struggling university of the past. In 1855 the university had twenty professors and lecturers and about eighty students. It now has seventy-four professors and lecturers and a thousand students. This fact alone is sufficient to indicate the increase in the work and responsibility of the officer who has to superintend and harmonize all these workers in many different departments. I would therefore more especially ask in his behalf that he should have means to support the dignity of the university in its social aspect, to entertain distinguished strangers as well as the members of the university, and to take a place in society becoming the magnitude of the interests committed to his care. Under our constitution he cannot be an autocrat, since he can only enforce regulations enacted by the Governors and corporation, but he should at least have full information as to all contemplated movements, and should be consulted respecting them, and should be recognized as the only official medium of communication between the different portions of the university. The operations of McGill are now so extensive and complicated that the dangers of disintegration and isolation have become greater than any others, and the Principal must always be the central bond of union of the university, because he alone can know it in all its parts and weigh the claims, needs, dangers, difficulties and opportunities of each of its constituent faculties and departments. Much of this must without doubt depend upon his personal qualities, and I trust those who are to succeed me in this office may be men not only of learning, ability and administrative capacity, but of unselfish disinterestedness, of large, sympathetic and wide views, of kindly, generous and forgiving disposition, and of that earnest piety which can alone make them safe advisers of young men and women entering on the warfare of life.

In conclusion, let me say a word as to myself and my retirement from office. My connection with this University for

SIR WILLIAM DAWSON.

the past thirty-eight years has been fraught with that happiness which results from the consciousness of effort in a worthy cause, from the aid and support of my dear wife, who has cheered and sustained me in every difficulty, and from association with such noble and self-sacrificing men as those who have built up McGill College. But it has been filled with anxieties and cares, and with continuous and almost unremitting labour. I have been obliged to leave undone or imperfectly accomplished many cherished schemes by which I had hoped to benefit my fellow-men, and leave footprints of good on the sands of time. Age is advancing upon me, and I feel that if I am fittingly to bring to a close the business of my life I must have a breathing space to gird up my loins and refresh myself for what remains of the battle. I have, besides, as you know, been somewhat abruptly deprived by a serious illness of my accustomed strength, and in this I recognize the warning of my Heavenly Father that my time of active service is nearly over. In retiring from my official duty I can leave all my work and all the interests of this University with the confidence that, under God's blessing, they will continue to be successful and progressive. The true test of educational work well done is that it shall have life and power to continue and extend itself after those who established it are removed. I believe that this is the character of our work here, and I shall leave it with the confident expectation that it will be quite as successful in my absence as in my presence. Such a result I shall regard as the highest compliment to myself. To this end I ask your earnest consideration of the sketch of our progress which I have endeavoured to present, and I pray that the blessing of God may rest on the university and on every part of it, and that it may be strengthened with His power and animated with His spirit.

AN IMPROVED STRETCHER FOR HOSPITAL, AMBULANCE AND MILITARY USE.

By E. D. Worthington, M.D., F.R.C.S. Edin., Surgeon-Major (R.) Can. Vol. Militia.

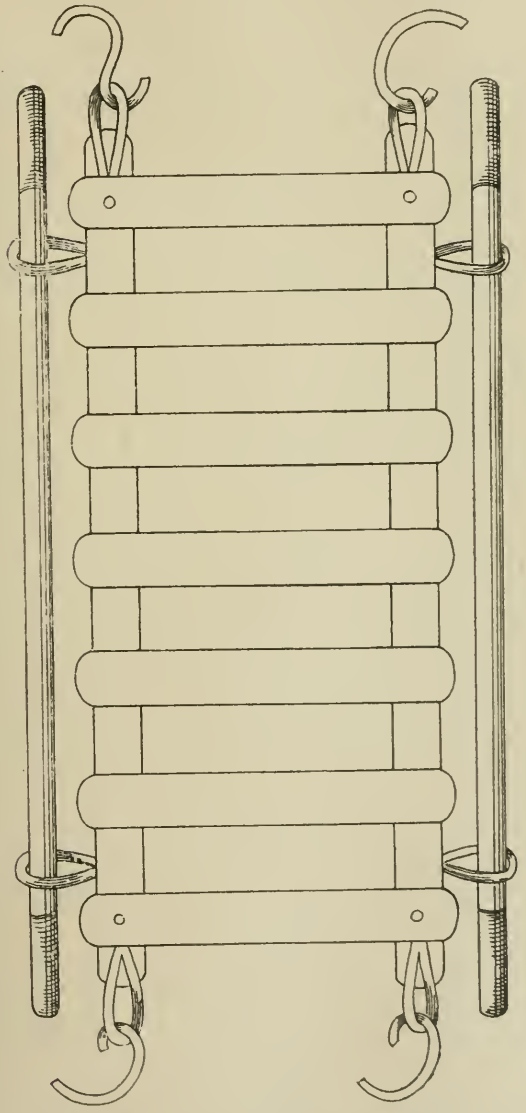
Some time ago I put together a rather primitive apparatus for use in a very troublesome case of fracture of the neck of the femur, and I was so satisfied with its great usefulness that since that time I have frequently called its aid into requisition. The following is copied from my notes from this first case:—

Case of Fracture of the Neck of the Femur.—The patient is upwards of sixty years of age, and weighs 165 lbs. At the time of the accident she received some abrasions of the skin behind the trochanter of the injured side, and on the back, but as she did not complain of them, they remained undiscovered. After a few days, however, these abrasions became so painful that it was necessary to ascertain their exact locality and extent. How to do this was a matter of some difficulty, as the slightest attempt at moving the patient was attended with excruciating agony. I therefore adopted the following simple plan, and not having seen any similar contrivance used for this specific purpose, beg to recommend it to the profession, even at the risk of repeating "an old, old story."

My apparatus was as follows:—Eight pieces of pine, six of them being thirty inches in length, four in breadth, and one-quarter of an inch thick. The other two were three inches in breadth, three-quarters of an inch thick, and the length of the patient's bedstead, inside measurement. The ends and edges were rounded, and made perfectly smooth.

When everything was ready, I passed the short pieces under the patient, from side to side, at regular intervals, from the head to the feet—say one at the heel, the calf of the leg, the middle of the thigh, the hips, small of the back and shoulders. The long pieces were then carefully inserted under the ends of the short ones. The apparatus was put together in a minute, and one person at each corner lifted the patient easily and steadily on this temporary stretcher. The bed underneath was then arranged without the least discomfort to the patient. In this way my patient has been moved

two or three times a day. She likes it. As her bedstead is rather low, two ends of the long side pieces are lifted so as to



rest on the headboard, and a couple of hassocks support the lower ends until the process of bed-making is complete.

In all the stretchers that I have seen, the patient had to be lifted upon them, while in this plan the stretcher is made under the patient. As a matter of prudence, the four corners may be secured, so as to prevent the possibility of their spreading, but the weight of the patient, and a little care on the part of the attendants, will render this unnecessary in the hospital ward.

It is sometimes difficult for the nurse to pass the bed-pan well under a patient, but by adopting the above suggestion, either the bed pan or the ordinary "utensil," according to the peculiar notions of invalids on this delicate subject, may be used without risk of making the patient a victim of misplaced confidence.

In conclusion, I believe that for field use, the above put together in sets, with a wooden pin to be dropped in a hole at each corner, would be more serviceable, and in every respect better, than the present army stretcher.

The patient, who was the wife of a judge, was proverbially sensitive, and accustomed to every luxury. At first she remonstrated against being asked to lie upon "these bare, hard slats," but in a short time she was loud in their praise. "Dr. Worthington" she frequently said, "I cannot tell you what a comfort they are to me. The girls lift me up with the greatest ease six or eight inches above the level of the bed, while they are changing the sheet. They have even carried me into another room, while this one was being aired. I could lie on this temporary bed for an hour or more without inconvenience. You must write a description of it to the medical papers."

Second Case.—A railway accident, a poor fellow was fearfully mangled. He was two miles away from his home, and to carry him that distance with as little suffering as possible was most desirable. Even if a canvass stretcher, the traditional barn door, or a wide board could have been procured, the poor man would have to be lifted upon it, and when he got home, be lifted from it, whereas an old picket fence by the side of the track supplied the short pieces as above described, and a couple of saplings the side pieces, and the man was carried home and laid on his bed; then, and not till then was the stretcher removed.

Third Case.—On October 1st. A gentleman received a gun shot wound from the accidental discharge of a Winchester rifle. The bullet entered the thigh, posteriorly, fractured the femur about its middle, and made its exit on the front of the thigh, exactly opposite the point of entrance. The accident occurred on a line of railway in construction, connecting Montreal with Sherbrooke, so that he could receive all the attention necessary. There was no hemorrhage, not a spoonful. My friend, Dr. Fenwick, of Montreal, saw the patient with me and though we urged him to go to the hospital in Montreal, he insisted on remaining in Sherbrooke. I had applied the long straight splint to which I adjusted pully and weight, and next morning put the whole leg up in a glue bandage with traps over both wounds. He had my stretcher in his private ward, the nurses being well drilled in its use, and it was used upon every occasion, freely, when using the bed-pan and making or changing his bed. There was in the whole case, in the aggregate, not one tea spoonful of discharge, nothing but a few shreds of woolen fabric.

On the 14th December he sailed for Scotland in one of the Allan steamers—a few days over ten weeks. I insisted upon his keeping on the glue bandage until he reached home. A few months later he returned to Canada with a scarcely perceptible limp, the shortening not being more than half an inch.

I do not pretend for one moment that the success of this case of gunshot wound of the thigh, involving fracture of the femur, was due to the use of the stretcher, but I do claim that it assisted materially in securing, as much as was possible, of absolute rest for the broken ends of the bone.

I hope the diagram will be under. The short pieces may be made of pine, bass-wood, maple, anything; they should be beautifully smooth and lightly bevelled at each end. When wanted for use the under sheet of the bed should be pulled smooth and the short pieces passed under the patient, beginning just above the heel, and up to the head at regular intervals, of course, between the under sheet and the patient's shirt or chemise; that at the head should be passed under the pillow. The side pieces are then introduced, gently depressing the mattress, if necessary, passing along the wooden pins

are dropped into the holes at the four corners, and then the attendants lift the patient up, and drop the claws or hooks over the end bars of the iron bedstead. The patient will then be lying on a hammock from six to twelve inches above the mattress, high enough for any procedure. I have never found it necessary to use the pins at the corners, relying on the weight of the patient, but using them will inspire confidence. It may be asked, "What! would you ask a delicate sensitive girl to lie on your bare boards?" Yes, that is precisely what I do ask of a delicate, sensitive girl; and I would venture to prophecy that after using it once, she will be as willing to praise it as was my old delicate damsel.

For a description of the stretcher I refer you to the accompanying diagram. It will be noticed that at each corner of the diagram there is a loop and a hook. The loop should be of rather stout webbing, and fastened on the under surface of the ends of the long side pieces with a couple of copper rivets. Each loop holds as a fixture, a claw, or hook, for suspending the stretcher on the cross bars of the bedstead at the head and foot.

In the ordinary ambulance service, when the waggon reaches the scene of the accident, the tray or slide is run out with its comfortable looking mattress, upon which the injured person is lifted. When he reaches his home or the hospital, he is lifted off, at a great expense of unnecessary suffering. All this time the "white elephant" of the case—the mattress—has been under him, and it will cost him as much pain to get it from under him as it cost originally to get him on it.

My stretcher, on the other hand, may be adjusted under the patient, the stretcher slung in the ambulance, and when the hospital is reached the stretcher is run out, carried to the ward, and hung to the cross-bars of the bedstead, the clothing of the patient removed, the stretcher lowered on to the sheet of the bed, and then the wooden frame removed. No infliction of lifting and pulling from one side of the bed to the other.

What I have here written will apply equally to civil and military ambulance service. The objection may be urged that the apparatus composed of so many pieces, some of them may be lost, but it will be the duty of those in charge to take measures accordingly. The two side pieces and the six short

ones, with poles, consisting one set, when strapped together, will not be a very cumbersome affair. They can be put together and taken apart in a minute, and any extra care required in adjustment will be more than made up in usefulness.

All that will be necessary to render this stretcher suitable for field use will be the addition of four loops of webbing of suitable strength, two on each side, fastened with copper rivits on the under surface of the long side pieces, the loops being large enough to allow of passing on each side a pole, to answer the double purpose of handles to lift by and to form sides for the stretcher.

In conclusion, I have to say that it would be difficult to over-estimate the value of this very simple contrivance. In post partum hæmorrhage, hæmorrhage in typhoid, or in cases of accident or extreme debility from whatever cause, whenever a change of bed and raiment would be most desirable, but where the change could not be made without risk, this apparatus affords an easy solution of the difficulty. In cases, too, where it is necessary to reduce the temperature by placing the patient in a cold bath, the move can be made without subjecting the patient to unnecessary loss of vital force. The patient may be lifted into and out of the bath on the stretcher.

The most serious objection that may be urged to the use of this apparatus as a military appliance is that it will take so long to adjust under fire that the ambulance or relieving party may be annihilated before the operation can be completed; but under a heavy fire, the form of the stretcher will be a matter of comparatively little moment—the party would be shot anyway. Ambulance parties remove the wounded under a heavy fire more frequently in accounts of battles and letters of war correspondents than in actual war. According to "Regulations," belligerents are not to fall out of the ranks to pick up the wounded, and the ambulance corps seldom begin their work until the ground is pretty well out of the zone of fire.

Sherbrooke, P.Q.

REPORT OF THE SPECIAL COMMITTEE APPOINTED BY THE MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

The Coroners' Law of the Province of Quebec.

Your Committee appointed to consider the present system of conducting inquests and the modifications, if any, which may wisely be introduced in the present law relating to inquests, beg to present to the Society the following report :—

The enquiry into and determination of the cause of the death of any individual or individuals, where such death has occurred under circumstances that are out of the common, is a matter that does not come under the cognizance of the Dominion authorities, save and except when the inquest leads to a finding of death by criminal act or criminal neglect. Hence, (with the exception that whenever such a charge is brought, the depositions taken by the coroner must be transmitted to a magistrate or justice of the peace, and the coroner must issue a warrant against the person or persons charged, etc.), the coroner's procedure is a matter outside the Dominion Statutes, and it is in the power of the Legislature of the Province of Quebec to freely modify the existing law. Your Committee desire to draw attention to this fact at the outset, for, this being so, the task of introducing certain urgent modifications, or, indeed, of completely altering the procedure, becomes an easy one, granted that the members of the Provincial Legislature become assured of the need for change.

The present Provincial laws respecting enquiries into the mode and cause of death are based essentially upon the old English Common Law. The enquiries are placed in the control of coroners appointed by the Provincial Government, a coroner for each judicial district. The coroner need not be a member of either the legal or the medical profession, although in the great majority of cases he belongs to one or the other.

Upon receiving notice of a case of death following upon any act of violence, or of death attended by suspicious circumstances, it is his duty to make a preliminary enquiry.

If, with or without medical aid, he comes to the conclusion

that the cause of death is to be made out without the assumption of there having been either criminal act or criminal neglect, he can order the interment of the body. If, on the other hand, he is led to suspect that death has been due to violent or unfair means, or culpable or negligent conduct of others, under circumstances calling for investigation by a coroner's inquest, then, having made a sworn deposition to this effect before a magistrate, he is empowered to hold an inquest. What these "circumstances" are which call for investigation is not defined in our Statutes, they being left to the coroner to determine. Having made the deposition, he now can summon a jury and hold a coroner's court. He is empowered to call before him such witnesses as in his opinion can throw light upon the cause of death.

The jury must view the body of the deceased, and if the majority of the jury desire it, the coroner is directed to instruct that an autopsy be performed to throw some light upon the cause of death. Having heard all the evidence, the coroner sums up, and leaves it to the jury to bring in a verdict, and, when this has been delivered, the coroner gives an order for the interment of the body.

The coroner is paid six dollars for every inquest, and if an inquest occupies more than two days, three dollars for every succeeding day. The practitioner of medicine making an external examination of the body receives five dollars, making an autopsy he receives ten dollars. There are further fixed charges for the constable who summons the jury and the witnesses, for chemical analyses, for hire of room to be used for the inquest, and for guarding the body.

This, put as succinctly as possible, is the present coroners' law for the Province of Quebec.

Several objections have been brought against this method of investigating suspicious deaths, and despite the fact that the law as now administered is much amended, and differs in many respects from the law of a few years back, the objections still retain their force. Your Committee would point out what it considers to be the most serious disadvantages of the present mode of procedure.

1. *The Cost.*—Taking the returns for Montreal alone, as shown by Dr. Wyatt Johnston, the cost per inquest—that is to say, per case—is decidedly greater than in London, New York or Massachusetts. The rate would seem to be $22.00 in Montreal, $15.00 in London, $16.90 in Boston, $12.80 in Massachusetts generally, $10.00 in New York; and this notwithstanding the fact that autopsies, the most expensive individual item in the investigation of suspicious deaths, are from three to four times as frequent in the other cities as they are in Montreal. Here, in Montreal, it costs more to maintain a dead body in the care of the coroner than it does to maintain an ordinary live individual with healthy appetite at a first-class hotel for the same period. Some of the items permitted by law in the coroner's accounts ought to be lessened or removed altogether, others ought to pass into general police accounts. But the fact remains that the system is as expensive as its results are unsatisfactory, and that the chief source of expense is the legal investigation of cases which do not call for legal investigation at all, owing to the fact of death not having been due to violence. The exclusion of cases not calling for inquest by means of a preliminary medical examination seems to be the most rational means of reducing the expenses.

2. *Payment by Fees.*—Your Committee is of opinion that, as a matter of principle, the payment of the coroner according to the number of inquests held by him is most unsatisfactory, and is inimical to the proper carrying out of enquiries into the cause of death.

Your Committee find that of the cases of death calling for a coroner's investigation occurring in the various large towns, from 50 per cent. to 75 per cent. can upon preliminary investigation be found to be due to natural causes. That is to say, the more careful the preliminary investigation made by the coroner, and the more conscientious and expert he shows himself in the performance of his duties, the fewer the inquests he finds it necessary to hold, and the less his income if he be paid so much per inquest. While if it so happens that his enquiries lead him to suspect the frequent occurrence of any one form of

crime at any period, as, for example, child murder, and so to hold an increased number of inquests upon certain classes of cases, immediately he lays himself open to the charge of seeking to increase his income. This ought not to be. In the cities, at least, the coroners ought to receive fixed salaries.

3. *The Jury.*—Under the present system, the jury in Montreal, with rare exceptions, certainly cannot be said to be a capable and representative assembly of citizens. Men engaged actively in any form of business prefer to employ any subterfuge rather than sit for what may be many hours in a morbid atmosphere, for no return whatsoever save discomfort and loss of time. The consequence is that too often the jury is composed of a heterogeneous collection of incapables, gathered from the highways and byeways and bar-rooms of the neighbourhood. The verdict of such incapables is, time after time, at variance with the evidence presented.

4. *Viewing the Body.*—The custom of viewing the body is as old as the coroner system. It arose at a time when violent deaths were as many as doctors were few, and when population was everywhere so sparse that the jury had an important part to play in determining by external examination that death was due to violence, and, again, in identifying the corpse. Now-a-days, in a large town, it is highly probable that not one of the jury will have known the deceased, and the determination of the cause of death may more safely be left to medical men. In any case, it is easy to obtain identification by means other than the irruption of a strange, unseemly rabble into the house of mourning. The general feeling throughout the community is that this intrusion into the circle of bereaved relatives in the very depth of their trouble, permitted by the present law, ought to be prevented, and your Committee urges strongly that it is as unnecessary as it is unbecoming. It has been superseded in many States by a system of sworn affidavit of the fact of death and the identity of the body, and this course should be followed here.

5. *Suicide.*—The existing law does not demand inquest in cases of *felo de se.* This your Committee, on the whole, is

inclined to consider a disadvantage. The general opinion of the community is strongly opposed to suicide, and were it to be recognized that this mode of death necessarily involved a public investigation, there is little doubt that the unpleasant publicity of the subsequent proceedings would act as a deterrent in not a few cases. As a matter of fact, suicide is on the increase in those States where this deterrent does not exist or has of late years been removed.

6. *Medical Evidence.*—A study of the verdicts brought by the coroners' juries shows clearly that the decision of points of medical evidence is a matter that should not be left to non-medical persons. Statements utterly at variance with the cause of death assigned have been time after time accepted blindly by coroner and jury. The appreciation of medical facts, and the opinions to be formed from these facts, come properly within the domain of the medical expert. It cannot be expected that the legal coroner and the jury should without fail form correct opinions upon delicate medical problems.

Another point with regard to medical evidence may here be brought forward. The practitioner who is called to testify as a physician differs from the other witnesses, from the fact that he is called in his professional capacity. The value of his evidence lies in this, that he has studied the condition of deceased prior to death, and his evidence must depend for its value upon the importance of these earlier professional studies in throwing light upon the cause of death. To this extent, therefore, his evidence is expert evidence, and as such it ought to receive a recompense. But under the present system no fee whatsoever is allowed save for external or internal examination of the body of the deceased. The medical practitioner is wrongly treated as an ordinary witness.

Your Committee strongly approves of the plan adopted in many of the United States, of admitting a written medical deposition of fact or opinion as evidence at inquests in cases where the personal attendance of a medical witness is not considered necessary by the coroner.

7. *The Performance of Autopsies.*—In all the large class of

cases now investigated before juries where sudden death occurs without the slightest external lesion, an autopsy is advisable. Nevertheless, with an exception to be presently noted, no autopsy can be performed unless it be demanded by the majority of the jury. That is to say, the jury has to express itself willing to waste an hour or more in the middle of its proceedings, so that a competent medical man may be called, who shall make an examination into the state of the viscera. As a consequence, the jury, in the first place, shows the greatest unwillingness to allow the performance of autopsies, and will the rather return a wholly unreliable verdict. In the second place, the medical man performing the post-mortem is at a great disadvantage, for he is expected to keep the jury waiting as little as possible, and his examination, instead of being deliberate and careful, is hasty and liable to be imperfect Your Committee feel assured that were the coroner allowed full power himself to order an autopsy in all doubtful cases, a very large proportion of cases would be discovered in which there would be no necessity for holding an inquest and summoning a jury. Thereby a very large expenditure would be prevented, and at the same time the cause of death would be satisfactorily established. The exception referred to above is that by the present law the coroner is permitted to order an autopsy if he makes an affidavit that he holds the autopsy to be necessary. Unfortunately, coroners do not seem to have taken advantage of this permission, but prefer to shelter themselves by leaving the matter wholly in the hands of the jury.

A great source of difficulty in connection with the performance of medico-legal autopsies is the absence of any suitable morgue in Montreal, and some measures should be taken without delay to remedy this defect, which also hampers medico-legal investigation in many other ways.

8 *Preliminary Investigations.*—In all cases of suspicious death, the first question to be settled is what has been the immediate cause of death. In all cases, therefore, the first point to be investigated is purely medical. It is true that frequently the question is one that can be answered by any indi-

vidual endowed with common sense, as, for instance, when a corpse is discovered upon the railroad track minus its head, though even in such cases serious mistakes have occurred through the bodies of murdered persons being so placed as to give an impression of accidental death. But if the question in certain simple cases can be answered by a layman as well as by a professional man, there is a very large number of cases, and these often the most important from a medico-legal aspect, where a correct determination can only be reached by a well-qualified medical man, and where it is all-important that a correct answer be gained at the outset, not only for the benefit of the relations of the deceased (that they be sheltered from the least breath of unnecessary suspicion), but also for the benefit of the Provincial exchequer, that the Province be not saddled with the cost of an inquest leading to no result When more than 50 per cent. of all deaths which coroners are called upon to investigate are found to be from natural causes, it is evident that the majority of deaths now investigated require no legal investigation whatsoever, while, on the other hand, as indicated above, all such deaths demand an initial investigation by a medical man.

9. *Criminal Cases.*—Under the existing law, when his jury brings in a charge of murder or manslaughter, or of being accessory to murder before the fact, against any person or persons, the coroner must issue a warrant against such person or persons, and send him or them before a magistrate or justice, if this has not already been done. He must at the same time transmit the depositions taken before him in the matter.

To all intents and purposes, the trial before the magistrate proceeds as though no previous enquiry had been held. The coroner's depositions are not employed as evidence. In fact, the magistrate treats the case as though he were proceeding under an ordinary warrant.

If the magistrate confirms the charge, the case is sent up to the Grand Jury, and here again all the witnesses are once more summoned and the evidence is repeated, and the Grand Jury finding a true bill, the case goes before the Petit Jury, and again the evidence is repeated.

It appears to your Committee that this procedure is singularly cumbrous, and that, besides harassing the witnesses, it allows an unduly large number of loopholes of escape for those really guilty, upon some legal technicality or faulty observance of legal procedure. Your Committee, considering that the problem of how this procedure may be simplified is a purely legal one, does not offer any suggestions on the matter.

Taking all these disadvantages into consideration, and being especially impressed by the fact that the earliest stages in the investigation of suspicious death must of necessity be of a medical nature, and by the further fact that where the legal proceedings of the coroner lead to a definite charge against an individual or individuals those legal proceedings are practically passed over unnoticed by the higher courts, your Committee have come to the conclusion that a drastic change in the mode of investigation of suspicious deaths is advisable in this Province.

There are two questions which naturally suggest themselves prominently in connection with questions of coroners' reform. The first is, Should the coroner be a physician or a lawyer? and the second, Should the office of coroner be abolished?

With regard to the qualifications necessary for coroners, your Committee does not think it necessary to dwell upon the relative advantages of having medical or legal coroners, although this is a subject of dispute which has now been fruitlessly discussed for more than a century, and will in all likelihood continue to be so as long as the coroner system lasts. We wish simply to state the fact of the existence of diversity of opinion on this matter. That there should be any question as to whether a physician or a lawyer would make the best coroner, implies that in either case there must be serious disadvantages. The point at issue here is the same as the question, Can a shoemaker make watches better than a watchmaker can make shoes?

In London, a settlement of the question has been attempted by selecting as far as possible coroners who have obtained both legal and medical qualifications. This plan of expecting the coroner to be a Jack-of-all-trades has not much to recommend

it; and the fact that in London, in addition to the doubly-qualified coroner, there are the deputy coroners, who are obliged by law to be barristers, and all the medical expert work is done by outside medical men, shows that matters are not in any way simplified even by having the coroners who are at once both lawyers and physicians.

The only rational plan, and one whose advantages appear never to have been questioned, is that adopted on the Continent, as well as in those States which now are under the medical examiners system, of separating as far as possible the medical and legal side of the investigation, and entrusting these to physicians and lawyers respectively. Your Committee is just as firmly convinced that all legal questions should be left wholly to lawyers, as that all medical ones should be entrusted to medical men.

The Abolition of the Office of Coroner.—Your Committee finds that in those States where this has been done, the previous difficulties seem to have been promptly and permanently removed, and it does not appear to have been necessary in any instance to revive the office. The office of coroner was created in England while that country was in a lawless state, and when police regulations and courts of justice were almost non-existent. Since the development of the judicial and police system, the coroner's office has gradually come to fill the important function of fifth wheel to the car of justice. It has been retained through that conservative spirit which retains the cumbrous system of pounds, shillings and pence for the national currency. Many of the United States are still in that primitive and lawless condition, which makes the office of coroner a useful one. In the more highly civilized States the old coroner system is rapidly disappearing, and it is practically obsolete in five, viz.: Massachusetts, Rhode Island, Connecticut, New Jersey and New Hampshire.

As to whether the office of coroner should be abolished in our own Province, we have no hesitation in stating, as medical men, that, from a medical point of view, the office is simply an absurdity, which constantly interferes with the proper employ-

ment of medical science for judicial ends, and that it could be abolished to-morrow with marked benefit to the medical side of criminal cases.

The fact that the appointment of competent medical experts as consultants to the coroner's court of Montreal during the last year has neither prevented nor greatly diminished the number of those palpably absurd and unsatisfactory verdicts, which have made this court a public laughing-stock in past years, shows that something must be radically wrong with the system, which must he remedied, even if this necessitates abolishing the office.

On the other hand, we do not feel, as medical men, competent to decide as to the possible effects which would be produced by this change from a judicial point of view. If the office of coroner were abolished, the legal duties would have to be provided for in some way, the details of which can only be decided by persons thoroughly conversant with the workings of our criminal law. Furthermore, the abolition of the office of coroner does not appear to your Committee to be absolutely necessary in order to secure the necessary medical reforms. All that is really necessary is to do away with the medical functions and responsibilities of the coroner and to make the office a purely judicial one, only dealing with those cases where there are definite grounds to suspect death from violence or negligence and these grounds are either strengthened or not removed by the examination of a medical expert.

We would therefore recommend :—

1. That salaried medical examiners be appointed to investigate all deaths occurring under circumstances calling for medico-legal investigation under any act, and that these officers be given authority to make such medical examination of the body as may be necessary to determine whether death was due to violence or not ;

2. That in every case the medical examiners report the result of their examination to the coroner or other judicial officer charged with investigating the legal side of such cases, who, in case of violent death, shall make such investigations and take

such measures as are necessary for the proper administration of the law.

If necessary, we are prepared to draft an amendment to the law which would secure the proper carrying out of this system.

(Signed,) G. P. Girdwood.
J. George Adami.
E. P. Lachapelle.
James Bell.

At the regular meeting of the Society held on Friday, Dec. 15th, 1893, this report was unanimously adopted, and it was resolved that a copy of the report be sent to the Attorney-General and to each of the medical members of the Legislative Assembly and Council of the Province of Quebec.

Reviews and Notices of Books.

A Manual of Medical Treatment or Clinical Therapeutics. By I. Burney Yeo, M.D., F.R.C.P., Professor of Clinical Therapeutics in Kings' College, London, and Physician to Kings' College Hospital. Author of "Food in Health and Disease," etc. With illustrations; 2 vols. Philadelphia: Lea Brothers & Co. 1893.

Recently several works have appeared dealing with Therapeutics from the side of the disease, and not from the side of the drug or agent. This is certainly a more natural and practical method. In America we have the encyclopædic volumes of Hare's "System of Practical Therapeutics." In France, Dujardin Beaumetz' work is one of importance; and recently in England there has appeared Whitla's "Dictionary of Treatment." Dr. Yeo's work is a happy mean between the latter and the first named. It is not a ready reference-book by any means. The author strongly and justly argues against works that pretend to be of this class.

Rational therapeutics is the aim of the author of the work under consideration.

The first volume deals with the treatment of the diseases of the organs of digestion, of the heart, blood-vessels and blood, also with the respiratory diseases. The various diseases are

taken up separately; a short account of the nature and symtomatology is followed by a full description of the therapeutic indications, and how they are to be met. It is almost needless to add that the author shows evidence of an intimate acquaintance with the latest literature on every subject with which he deals. The treatment of constipation may be taken as an example of the author's thorough and scientific method of dealing with his subject.

"The treatment of habitual constipation must respond to the following indications:—

"1. A suitable regulation of the diet and regimen.

"2. An enforcement of healthy habits of life.

"3. The adoption of such remedial measures (medicinal or other) as shall immediately overcome the existing constipation, and prevent its recurrence; the latter by improving the digestion, promoting intestinal secretions and giving tone to the intestinal walls."

Here we have in a few words an admirable sketch of what we have to do—a scientific foundation, on which naturally follows a rational therapeutics.

The second volume deals with diseases of the liver, kidneys, nervous system, constitutional diseases, and the infective diseases. The same thoroughness characterizes all the subjects dealt with.

The work is one which we can strongly recommend to the practising physician. In it he will find much food for thought, and directions that will lead him from beaten paths.

A Manual of Diseases of the Nervous System. By W. R. Gowers, M.D., F.R.C.P., F.R.S., Consulting Physician to University College Hospital, Physician to the National Hospital for the Paralyzed and Epileptic. Second Edition, revised and enlarged. Vol. II.—Diseases of the Brain and Cranial Nerves; General and Functional Diseases of the Nervous System. With one hundred and eighty-two illustrations, including a large number of figures. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1893.

We have already noticed the first volume of the second edition of this work. The second volume, dealing principally

with the disease of the central nervous system, is in every respect a most complete and thorough account of this all-important class of disease. We have no hesitation in saying that Gowers' work on "Diseases of the Nervous System" has no equal in the English or any other language. The volumes represent an amount of original painstaking work which is simply marvellous. It is a contribution of the highest worth in a difficult department.

The second edition has been thoroughly revised and considerably enlarged, leading to an increase of about 100 pages in the second volume. The illustrations are numerous, and are for the most part original, and will be found of great value in quickly and rightly understanding the text.

The American publishers have spared no pains or expense in getting up this handsome volume.

We have much pleasure in recommending it as the great work of the present day on the diseases of the nervous system.

Public Health Laboratory Work. By H. R. Kenwood, M.B., D.P.H. London: H. K. Lewis, 1893. Crown 8vo. pp. 482.

This recent addition to Lewis's Practical Series is one that can be freely recommended to students of Hygiene and to all interested, practically, in matters affecting public Health. Its great virtues are that it is eminently practical, that it is written in a most lucid manner, and, what is of considerable importance, that it is written by one who is engaged in carrying through a course of instruction in Practical Hygiene along the lines laid down in this work; for the author is assistant to Professor Corfield in the Public Health Department at University College, London, and the matter contained in the text-book represents broadly that taught in the Practical Hygiene course at University College.

The subjects which may demand investigation by an officer of public health, or in a hygienic laboratory, are so many and so serious, that to write at all exhaustively upon the whole province would lead to the production of a very bulky volume. Add to this that in certain departments of the work, as, for example, in the analysis of air (estimation of carbonic acid), of water (estimation of nitrogenous matter), of milk (estima-

tion of fat), and so on, several methods are strongly recommended by the several schools, and were all these to be described and criticized, much space would be taken up. Mr. Kenwood has overcome these difficulties by confining himself more especially to the most important branches of laboratory work, and in these describing fully the stages of the one method of analysis which, for the general worker, has proved most rapid and most satisfactory. More than 150 pages are devoted to the hygienic (chemical) analysis of water, 60 pages to air analysis, while 150 pages are given up to the subject of the examination of foodstuffs. There are clearly-written chapters upon soil examination and analysis of coal gas; while Mr. Rupert Boyce, Assistant Professor of Pathology at University College under Professor Horsley, contributes 60 pages upon the methods of bacteriological research, with especial reference to the examination of air, water and food. This last division of the work, while very succinct and clearly written, is, in our opinion, too much of the nature of an epitome, and not sufficiently a practical guide. Bacteriological study is becoming daily a more and more important department of Hygiene; we would gladly see this more fully recognized in the modern text-books, and would have welcomed a detailed and practical exposition of the methods of the bacteriological laboratory, in place of this *résumé* of the same,—all the more so because there are few teachers in England better fitted than is Mr. Boyce to furnish chapters upon practical bacteriology.

In dealing with the adulteration of foodstuffs, we notice that Mr. Kenwood is peculiarly cautious in defining the limits beyond which adulteration becomes unquestionable. This is specially seen in his treatment of certain of the simpler adulterations of milk, tea, coffee, bread and butter, and does but represent the difficulty encountered by public analysts in England and elsewhere in arriving at a definite conclusion in these matters. The difficulty, while in part due to the great differences that there may be in the chemical composition of successive samples of the commoner forms of animal and vegetable foodstuffs, is due also to the divergent rulings of the legal authorities upon questions of food adulteration. It is well, therefore, for the expert to be cautious in giving an opinion, but, at the same time, the path of the student is ren-

dered hard if he can gather but doubtful rulings from his text-books. Some clear code is much wanted defining what is adulteration and what does not come under this heading; or, rather, a satisfactory condition of affairs can be reached only when the Legislature, in the interest of the populace, treats the vending of inferior qualities of foodstuffs as standing upon the same footing as actual adulteration, and makes the two equally punishable.

In conclusion, it may be added that the work is printed in good clear type, and that the illustrations are good and diagrammatic. Altogether we can cordially recommend the work, which well stands comparison with recent text-books of Practical Hygiene published in France and Germany.

The Principles and Practice of Surgery. By John Ashhurst, Jr., M.D., Barton Professor of Surgery and Professor of Clinical Surgery in the University of Pennsylvania; Surgeon to the Pennsylvania Hospital; Senior Surgeon to the University Hospital and to the Children's Hospital; Consulting Surgeon to the Women's Hospital, to St. Christopher's Hospital, etc. Sixth edition, enlarged and thoroughly revised, with a coloured plate and 656 illustrations in the text; pp. 1166. Philadelphia: Lea Brothers & Co. 1893.

For some time Ashhurst's Surgery has been a favourite work with students, and it has now reached its sixth edition. This has been thoroughly revised by the author, assisted in some departments by well-known specialists. Dr. Chas. B. Nancrede has written a chapter on surgical bacteriology, Dr. Barton C. Hirst has revised the part which treats of gynæcological subjects, Dr DeSchweinitz that on the eye, and Dr. Alex. Randall that on the ear.

In this way a work has been compiled that is a most useful text-book, although something has been sacrificed in the endeavour to render the book as concise as possible. For instance, in cases of foreign bodies in the upper air passages, it is advised to make a laryngoscopic examination, but we find no description of how this is to be done. Again, the descriptions of the operations for the ligation of the various arteries are rather meagre in details. Still, the book has

much to recommend it, and will be found useful. The illustrations are well selected and well executed, many of them being from photographs of cases under the care of the author, and where they have been borrowed due credit is given.

Mechanical Aids in the Treatment of Chronic Forms of Disease. By GEORGE H. TAYLOR, M.D. New York; Geo. W. Rogers.

The author discusses the Postural or "Lifting" Couch, by means of which he treats pelvic affections, raising the hips and using massage, even where adhesions are present.

The Chest Developer is an apparatus adapted to correct thoracic asymmetry by stretching the chest walls.

The questions of slow massage and rapid mechanical massage are also discussed in separate chapters.

The instrument for chest correction is an ingenious application of the pendulum, in which the motion of stretching and relaxing the chest walls is carried on almost automatically after being once started by the patient.

The pamphlet contains about a dozen illustrations of various "vibrators" and massage couches, besides cuts of the above-mentioned chest machine.

Le Medecin de la Famille. Encyclopédie de Médécine et d'Hygiène publique et privée, contenant la description de toutes les maladies connues, et les meilleures méthodes de les traiter et de les guerir. Par Drs. SÉVÉRIN LACHAPELLE, BUCHANAN BURR, WILLIAM B. ATKINSON, HENRY M. LYMAN, CHRISTIAN FENGER, W. T. BELFIELD, MORRIS L. KING, L. E. FORTIER, H. WEBSTER JONES. Ouvrage illustré de nombreuses planches en couleurs et de belles gravures. *World* Publishing Co., Guelph, Ont., 1893.

This is a French edition of that popular work, "The Practical Home Physician," which is so well known to the English-speaking population of Canada. It deals with the anatomy and physiology of the human body, and in this connection the mannikin pictures are very good, showing the relations of the parts and organs layer by layer. Considerable space is devoted to Hygiene, a most important subject in such a work. The various ills that flesh is heir to are described in detail,

cause, symptoms and treatment. At the end of the book is a list of the poisonous plants of Canada, with a description and coloured plate of each. The whole work is one which can be studied with profit by the public, and is an excellent book for use in the home. The volume is well printed, and profusely illustrated both in black and white and in colours, and is handsomely bound in leather.

Transactions of the Medical Association of Georgia.

Forty-fourth Annual Session, 1893. Dan. H. Howell, M.D., Atlanta, Georgia, Secretary.

This volume contains the following papers:—

President's Address.

Contagiousness of Consumption—J. G. Hopkins.

Etiology of Puerperal Eclampsia, its Treatment, with Report of some Typical Cases—C. D. Hurt.

Persistent Remittent, or so-called Typho-Malarial Fever—W. P. Williams.

Some Remarks on Aseptic Surgery, with Demonstrations of Sterilizing Methods—T. M. McIntosh.

Periproctitis, with an Abscess, and a Report of a Case—M. L. Currie.

Mechanical Treatment of some Skin Anomalies—M. B. Hutchins.

Rare Case in Obstetric Practice, showing Hour-Glass Contraction on Fœtus—O. H. Buford.

Asphyxia Neophytorum, an Improved Method of Treatment—R. J. Nunn.

Impure and Pure Mineral Waters—T. S. Hopkins.

Sterility in the Male—C. Evans Johnson.

Science in Medicine and Surgery—J. McFadden Gaston.

The Disappointmants of the Menopause—J. C. Avary.

Puerperal Septicæmia—J. I. Darby.

Puerperal Eclampsia—J. M. Head.

Toxic Amblyopia—Jas. H. Shorter.

The Technique and After-Treatment of Ovariotomy—J. B. S. Holmes.

Fevers—S. B. Poland.

Typhoid Fever—N. M. Darden.

Fracture of the Skull, with Protrusion of Brain Substance, and Removal of Same—W. R. Googe.

Continuous Decaloration in Pyrexias—A. B. Simmons.

Syphilis from a Sociological Standpoint—W. F. Westmoreland.

A Case of Aneurism of the Thoracic Aorta—N. P. Jelks.

Stone in the Bladder, with Report of Cases—F. W. McRae.

Headache *vs.* Glaucoma—W. L. Bullard.

Two Rare Cases in Practice—P L. Hillsman.

Puerperal Eclampsia, with Special Reference to its Cause and Treatment—A. C. Davidson.

Partial Tenotomy, a Radical Cure for Heterophoralgia—C. H. Peete.

"Shotgun" Prescriptions—C. C. Hart.

Traumatic Diffuse Aneurism of the Anterior Tibial Artery—Ligation of the Femoral—F. R. Calhoun.

A Case of "Multiple Neuritis" (Alcoholic)—Mark H. O'Daniel.

Ectopic Pregnancy—Pathology, Symptoms and Treatment—R. R. Kime.

A Review of Dr. Senn's Views on Elastic Constriction—W. H. Elliott.

Ante and Retro-Positions of the Uterus—Their Pathology, Symptomatology and Treatment—W. W. Stewart.

A Board of Medical Examiners: The State's Medical Duty—L. B. Grandy.

The Practice of Medicine in Georgia—A. C. Blain.

State and Municipal Hygiene, with a Plea for a State Board of Health, as well as for an Examining Board—J. C. Avary.

Four Women who Refused Oöphorectomy, and their Subsequent Histories—H. McHatton.

Transactions of the American Surgical Association. Volume XI. Edited by De Forest Willard, M.D., Recorder of the Association. Philadelphia: Wm. J. Dornan. 1893.

The following papers are contained in this volume:—

Address of the President.

A New Method of Direct Fixation of the Fragments in Compound and Ununited Fractures. By Nicholas Senn, M.D.

Hypertrophies and Degenerations of Cicatrices and Cicatricial Tissue. By John Collins Warren, M.D.

Surgery of the Gall-Bladder. By Maurice H. Richardson, M.D.

Surgical Treatment of Cervical, Thoracic and Abdominal Aneurism. By Charles Beylard Nancrede, A.M., M.D.

A Contribution to the Surgery of the Rectum. By Arpad G. Gerster, M.D.

Report of an Attempted Bloodless Operation for Malignant Polyp Springing from the Base of the Skull. By Roswell Park, A.M., M.D.

The Present Position of the Surgery of the Hypertrophied Prostate. By J. William White, M.D.

The Importance to the Surgeon of Familiarity with the Bacillus Coli Communis. By Roswell Park, A.M., M.D.

A Report of Cases of Operative Attack upon Meckel's and the Gasserian Ganglions. By Roswell Park, A.M., M.D.

Primary Sarcoma of the Tonsil. By Roswell Park, A.M., M.D.

Naso- or Retro-pharyngeal Growths. By J. Ewing Mears, M.D.

Treatment of Appendicitis. By John B. Deaver, M.D.

Operations for Appendicitis without Removing the Appendix. By James M. Barton, A.M., M.D.

Ten Cases of Ankylosis of the Elbow-Joint after Treatment of Fracture of the Lower End of the Humerus, with the Forearm in the Extended Position. Five Treated by Exsection, Five Treated by Infraction, and One Not Treated. By Jarvis S. Wight, M.D.

Clinical and Medico-legal Observations in Certain Forms of Spinal Injury. By Perry H. Millard, M.D.

Dislocations and Injuries of the Semilunar Cartilages. By S. J. Mixter, M.D.

Lymphangitis, Accompanied with Blood Poisoning, and Followed by Multiple Abscess. By J. McFadden Gaston, M.D.

The Report of a Case of Anthrax. By Herbert L. Burrell, M.D.

Cystic Growth Within the Internal Condyle of the Femur. By Thomas G. Morton, M.D., and William Hunt, M.D.

Gunshot Wounds of the Intestines; Clinical Report of Thirteen Cases; Remarks on the Diagnosis and Treatment. By Albert B. Miles, M.D.

Two Cases of Congenital Umbilical Hernia into the Cord; Operation; Recovery. By J. Collins Warren, M.D.

Cholecystectomy for Impacted Gall-Stones. By De Forest Willard, M.D., Ph.D.

Surgery: A Manual for Students and Practitioners. By Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Clinical Lecturer on Surgery, College of Physicians and Surgeons, New York; Visiting Surgeon Bellevue Hospital, New York; and Charles N. Dixon-Jones, B.S., M.D., Fellow of the New York Academy of Medicine and the British Gynæcological Society; Assistant Surgeon to the Out-patient Department of the Presbyterian Hospital, New York. Students' Quiz Series. Edited by Bern B. Gallaudet, M.D. Philadelphia: Lea Brothers & Co.

Chemistry and Physics: A Manual for Students and Practitioners. By Joseph Struthers, Ph. B., Columbia College, School of Mines, New York, D. W. Ward, Ph. B., Columbia College, School of Mines, New York, and Chas. H. Willmarth, M.S., New York. The Students' Quiz Series. Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy, College of Physicians and Surgeons, New York; Visiting Surgeon Bellevue Hospital, New York. Lea Brothers & Co., Philadelphia.

These volumes are very favourable samples of the Quiz system of books, which are prepared in the endeavour to find a royal road to learning, but we regret to say that they do not succeed in this. While such works are useful for a hurried review of a subject, they are too frequently a temptation to the student to scamp his work and study solely for the examination. We believe that such a system of boiling down of facts can never make a useful and reliable text-book, and the tendency is to draw students away from the larger works and to make them cram up a lot of undigested and unrelated facts instead of understanding the subject.

— The *Chicago Clinical Review* has made a new departure in medical journalism, which we are sure will be highly appreciated. It is to record each month the titles of important contributions to the literature of medicine. We wish the *Review* all success.

Bibliography.

Some Effects of Chronic Irritation upon Living Tissues, being First Steps in a Rational Study of Cancer. By D'Arcy Power, M.A., M.B. Oxon., F.R.C.S., Eng., Surgeon to the Victoria Hospital for Children, Chelsea; Demonstrator of Practical Surgery at St. Bartholomew's Hospital; Lecturer on Histology at the Royal Veterinary College. Reprinted from the *British Medical Journal*, Oct. 14th, 1893.

Address of the President, C. H. Hughes, M.D., St. Louis, Mo., at the Banquet in honour of the First Pan-American Medical Congress, given by the American Medical Editors' Association, at the Arlington, Washington, U.S.A., Sept. 4, 1893. Reprinted from *The Alienist and Neurologist*, St. Louis, Oct., 1893.

Report on Nasal Surgery, with illustrated cases. By M. F. Coomes, A.M., M.D., Professor of Physiology, Opthalmology, Rhinology, and Otology in the Kentucky School of Medicine, Louisville, Ky. Reprinted from the *American Practitioner and News*. Louisville: John P. Morton & Co., 1893.

Twenty-seventh Annual Report of the institutions known as "Dr. Barnardo's Homes" for Orphan and Waif Children. President: Right Hon. the Lord Brassey, K.C.B. Offices of the Homes: 18 to 26 Stepney Causeway, London, E.

The Pneumatic Cabinet in the Treatment of Pulmonary Phthisis. Read before the American Climatological Association, Richfield Springs, New York, June 24, 1892. By C. E. Quimby, A.M., M.D., New York. Reprinted from the *International Medical Magazine* for Jan., 1893.

The International Medical Congress.—The International Medical Congress, which was postponed from September 24th on account of cholera prevailing in Italy, will be held at Rome from March 29th to April 5th, 1894. Instructions and documents relating to the journey, etc., may be obtained from A. Jacobi, M.D., 110 W. 34th street, New York.

Society Proceedings.

MONTREAL CLINICAL SOCIETY.

Stated Meeting, October 28th, 1893.

Dr. E. H. Blackader in the Chair.

After Dr. R. Tait McKenzie had been nominated for membership,

Dr. Lockhart read the report of the committee appointed to prepare a constitution and by-laws.

After the report had been accepted, the constitution and by-laws were read by the Secretary, clause by clause, in order to permit the members to make any corrections or additions deemed necessary.

The by-laws were then adopted as read, and a vote of thanks to the by-law committee was carried unanimously.

The meeting then adjourned.

Stated Meeting, November 11th, 1893.

Dr. Geo. A. Brown in the Chair.

Dr. R. Tait McKenzie was unanimously elected to membership in the Society.

The election of officers, in accordance with the new by-laws, was then proceeded with, resulting as follows:—

President.—Dr. James Jack.

Vice-President.—Dr. Springle.

Secretary.—Dr. Evans.

Treasurer.—Dr. H. D. Hamilton.

Council.—Drs. Lockhart, Campbell and Allan.

Dr. Kirkpatrick was elected a member of the publishing committee.

Dr. Kirkpatrick then presented a very able case report on "Sciatica as a Complication of Carcinoma."

In the discussion which followed,

Dr. Campbell said he could not understand why the sciatic nerve should alone be affected.

Dr. Morrow suggested cachexia as a cause.

Dr. Kirkpatrick, in his reply, said that the sciatica preceded the cachexia, and that the latter was not marked in any of his cases.

Interesting cases in practice were then related by Drs. W. G. Stewart, England and Springle.

Dr. Allan then presented a communication to the Society in regard to the lax way in which the College of Physicians and Surgeons of the Province of Quebec is managed. He read copious extracts from the by-laws of the College, and showed how little attention had been given to the management of its financial affairs.

Several members coincided with Dr. Allan, and mentioned some of their experiences.

After some discussion, the matter was referred to the Council.

The meeting then adjourned.

Stated Meeting, November 25th, 1893.

The President. Dr. Jack, in taking the chair, thanked the members of the Society for the honour they had done him in electing him their first President, and urged them to co-operate with him in advancing the work of the Society.

After the discussion of some business matters arising out of the minutes of last meeting,

Dr. Martin showed an interesting pathological specimen from a case of strangulated umbilical hernia in a child 14 days old. The history of the case was that the child had been born at full term. The labour was easy. Shortly after the separation of the cord, on the 6th day, a small tumour, about the size of a hazel nut, was noticed at the umbilicus. Patient did well till the 10th day, when a watery discharge took place from the tumour. The bowels showed a tendency to constipation. On the 13th day vomiting and fever set in, and the patient died on the 14th day. At the post-mortem, a small black mass was noticed at the umbilicus, probably the remains of the cord. A knuckle of small intestine was found incarcerated in the umbilical ring. The incarcerated part was merely congested, there being no evidence of gangrene or perforation, and the peritoneum was merely inflamed locally. The kidneys showed the presence of uric acid infarctions, a condition said to be present in 53 per cent. of all cases. It was Dr. Martin's opinion that death had resulted in this case from shock.

A large sarcoma of the testicle was also shown.

After a few questions had been asked and remarks made on the specimens,

Dr. R. Tait McKenzie read a very interesting paper on "Physical Exercise as a Therapeutic Agent." (To be published later).

In the discussion which followed,

Dr. Geo. Campbell agreed with Dr. McKenzie as to the value of exercise in cases of chronic dyspepsia, and cited a case in his own practice. He could not agree with Dr. McKenzie's generalization that tuberculosis occurred only in weak organisms, and mentioned several cases to prove his point.

Dr. Haldimand was assured of the value of exercise in the treatment of constipation, the result of sedentary occupations.

Dr. Morrow mentioned the case of a child whose faulty attitude at desk at school had resulted in deformity, which passed away after a course of exercise and outdoor life.

Dr. McKenzie replied.

Dr. Blackader then mentioned a case in practice where herpes had complicated diphtheria. The herpes was situated on the thigh, just below the great trochanter.

After some general business matters had been discussed, the meeting adjourned.

Stated Meeting, December 9th, 1893.

James Jack, M.D., President, in the Chair.

Dr. Martin showed two microscopical specimens of the liver from a case of hepatic cirrhosis due to sclerotic changes in the hepatic artery. The patient had died from uræmic poisoning. Large fibrous bands were found at the base of the bladder, the ureters enlarged and dilated, and the kidneys in a state of moderate hydronephrosis. No specific or alcoholic history could be obtained.

In reply to a question from Dr. Gunn,

Dr. Martin said that the condition of the arteries generally, had not been noted, but that the vertebral and basilar arteries showed sclerotic changes.

Dr. Ridley Mackenzie said the patient had entered the hospital in a state of general anasarca. The urine excreted was noted to be rather increased at first, but the quantity gra-

dually lessened, till only five ounces were passed on the day of his death.

Dr. Morrow then read a very interesting paper entitled "Notes on Some Affections of the Brain." (To be published).

In the discussion which followed,

Dr. Orr mentioned a case he had met with in which an epileptic attack was followed by paresis of the right side, which disappeared in a very short time.

Dr. Martin asked if it would not be an easy matter to distinguish the epileptiform origin of aphasia from that due to cerebral hæmorrhage.

Dr. Gunn congratulated Dr. Morrow on having written such an able and interesting paper. He considered the reference to the fact that the so-called motor area of the brain was also an area of sensation an important one. He referred to the writings of Mr. Victor Horsley and others on this subject.

Dr. Morrow, in the course of his reply, stated that functional aphasia was chiefly met with in lunatics.

Cases in Practice.

Dr. Spier reported the case of a child aged 5 years who had come into the hospital suffering from diptheria. The right tonsil and soft palate were covered with membrane when first seen. The patient seemed to do very well, but a large quantity of albumen was found in the urine. The quantity of urine excreted gradually decreased, till only four ounces were passed the day before the child's death. The child died during a convulsion. An autopsy revealed the presence of a stone the size of a marble in each kidney, there being very little parenchymatous change in the organs themselves.

Several of the members then reported having met with cases of diphtheria where stridor coming on rather suddenly had been the most prominent symptom, there being no enlargement of the cervical glands. Post-mortem found the larynx and trachea lined with diphtheritic membrane, starting from the vocal cords. In several instances, no evidence of the presence of membrane could even be obtained by a laryngoscopic examination.

Dr. Ridley Mackenzie then mentioned a case of chlorosis which had improved very rapidly on full diet, rest in bed and nine Blaud's pills daily. On November 3rd the hæmoglobin was only 34 per cent., while on December 3rd it was found to be 92 per cent.

After some discussion as to the method of action of iron in these cases, the meeting adjourned.

Selections.

The Profession of Motherhood.—At a time when pressure on professions is severe, and when women are squeezing into them at such a rate that the earning of a livelihood is a matter of no small difficulty to the poor male, it is impossible to disguise our interest in the news that the ladies have discovered a profession which they can have all to themselves. Few amusements are more innocent than that of rediscovering old truths, and Miss Marion Harland, in writing her recent article in the *North American Review*, must not only have experienced the delight of knowing that she had produced and could claim maternal rights over a most charming headline, but may also have felt some satisfaction in the knowledge that the dogma she was about to unfold for the delectation of an astonished world had already in bygone ages received the sanction of most respectable people, for although it may be news to some, it still remains a fact, well emphasized in old world history, that the profession of motherhood has always been the sole profession of the best of women. It is, however, with a chastened sense of satisfaction that we find a notion so antique receiving even such support as a magazine article from the land of progress. To administer, says Miss Harland, the affairs of a household, upon the integrity of which depend the health, comfort and happiness of those who are to make history when their progenitors are with the forgotten dead, is a profession in itself, and an important one. Motherhood and home making are women's untransferable missions. Men may write her books, or paint her pictures, or conduct her financial and benevolent enterprises so well as to leave her generation nothing to regret in her withdrawal from one or all of these scenes of action. If she shirks the duty of maternity, the whole creation cannot supply a substitute. Those of us who remember the meeting of the British Medical Association at Brighton, not so many years ago, at which the President, Dr. Withers Moore, ventured to suggest to womanhood at large that to become mothers of men was not, after all, a too ignoble mission, and who recall the howl of disgust and scorn with which the hateful proposition was received, may perhaps now gently laugh at the swing of the pendulum while congratulating the race on the happy news that its perpetuation is now to be recognized as the proper sphere of womankind, a little fact which, it may be hinted, the best of them, the sly creatures, have known and acted on all along.—*British Medical Journal.*

THE ROYAL VICTORIA HOSPITAL.

A Sketch of the Building—An Account of its Formal Opening by the Governor-General.

Within the past few years there has been erected on the eastern brow of Mount Royal a cluster of magnificent structures which is a credit to the city and the country—a heritage of which everyone may be proud. The Redpath Museum, the Physics Building, the Practical Science Building, the Workshops, the Redpath Library, the Medical Building, are all structures which would grace with their beauty and elegance any University grounds. Lastly, "as a fitting tribute to human progress, and as a philanthrophic acknowledgment of human weakness and human suffering, looms up in all its sober grandeur the Royal Victoria Hospital."

For this grand structure the people of Canada are indebted to the princely generosity of the Right Hon. Lord Mount Stephen and Hon. Sir Donald Alexander Smith, K.C.M.G. They each contributed the sum of half a million dollars in the year 1887 for this purpose, choosing this year to commemorate the jubilee of our noble Queen. The city gave a portion of land for building purposes, but this proving for certain reasons unsuitable, the donors purchased an adjoining piece of ground for $86,000, and on the latter the hospital buildings have been erected. The plot of land given by the city will be used as recreation grounds for convalescents, and also for the open air treatment of cases that can be transported without suffering. In all, the hospital property extends over 23 acres of ground, thus ensuring abundance of light and air in all directions.

The "Royal Victoria" was incorporated in 1890 by an Act of Parliament "for the reception and treatment of sick and injured persons of all races and creeds without distinction.

The act provides that the governing board shall consist of fifteen persons, seven of whom are to hold office in virtue of their official position, and the remaining eight to be selected by the whole board.

The ex-officio Governors are The Mayor of Montreal, the President of the Board of Trade, the President of the Canadian Pacific Railway, the General Manager of the Bank of Montreal,

R. B. ANGUS,
THE PRESIDENT OF THE ROYAL VICTORIA HOSPITAL.

the chief officer resident in Montreal of the Grand Trunk Railway, the Principal of McGill University, and the Dean of the Faculty of Medicine McGill University. The selected Governors at present are :—Sir Donald A. Smith, Lord-Mount Stephen, Alexander G. Patterson, R. B. Angus, Thomas David son, and W. J. Buchanan.

Mr. R. B. Angus is president of the Hospital.

In due time the Governors are empowered by the act to establish convalescent cottages at Banff, N. W. T., and at Caledonia Springs, Ont.

The style of architecture adopted is the Scottish baronnial, and the façade of the Administration block is after the style of Fyvie Castle, in Aberdeenshire, near Haddo House, the seat of the Earl of Aberdeen.

Over the main arch of the doorway appear the monograms of Lord Mount-Stephen and Sir Donald A. Smith. On the western gable of the central block is the coat of arms of Lord Mount-Stephen, with his motto, " Lippen " (to trust). Sir Donald Smith's coat of arms on the eastern gable bears his motto, " Perseverance."

The donors were fortunate in securing the services of Mr. Henry Saxon Snell, of London, England, as architect. Mr. Snell has made a specialty of hospital architecture, among other buildings that he has designed recently, the most prominent being the new Royal Infirmary in Aberdeen. James R. Rhind acted as assistant architect. The latter, in a recent communication, says that when Mr. Snell was appointed architect and handed the plan of the site, and began to consider the arrangement best suited to the peculiarities of the ground, he said it was the most difficult task he ever had to perform. The difficulties were, however, got over in a masterly manner, and were made to serve the architect's grand design. The difficulties the architect had to surmount will be at once apparent, when it is considered that there is a difference in level of sixty-two feet between the lowest and highest point of ground covered by the hospital building.

The hospital consists of three really separate buildings, connected together by stone bridges. Viewed from the front on

Pine Avenue, the hospital appears to form three sides of a square. The central part is the administration block. It is from three to six stories in height. The ground floor is to be devoted to the offices of the Governing Board, the Secretary and his staff, and the Steward and his staff. The resident medical officers will also be quartered in this part of the building.

The second and third stories contain the appartments of the Lady Superintendent, her assistant and the nursing staff. The sleeping rooms of the servants are in the sixth storey.

No pains or expense has been spared to make the quarters of the nurses comfortable ; their parlors, sitting-rooms, bedrooms and library are tastefully and beautifully furnished.

The dispensary and patient's receiving rooms are also situated in the administration building, admission to the latter, and to the stores department, being from the rear. A special elevator runs from this department to the kitchen on the fifth floor.

This kitchen is looked upon as a model. It is very large and well lighted. There are a number of coal ranges, twelve gas ranges, a mammoth bakery oven, with separate compartments for every kind of baking. Many and various forms of steaming cauldrons and jacketed kettles are also to be seen in the kitchen.

The Ventilation.—The system of ventillation has received special attention from Mr. Snell.

In all the wards the fresh air is admitted through gratings placed near the ceiling. The current of cold air is heated in passing over steam coils to a temperature of about 80° Fahr. Two series of exhaust gratings remove the foul air ; one is placed near the floor and the other about six feet above it. Ducts lead from these gratings to the large flue in the centre of each wing. The smoke from the engine passes up a smoke stack in the centre of these flues, thus ensuring the rapid and complete removal of the foul air. In warm weather ventilation of the wards can be thoroughly effected through the windows which reach from the floor to the ceiling, and are double, with the thickness of the wall between. The lower fourth of the outer windows, and a fanlight at the top of the inner can be opened at the same time, thus giving abundance of fresh air without any draught.

The drainage and plumbing of the hospital are as good as competent and honest workmanship could make them. The water supply is drawn from the upper level reservoir, which is over a hundred feet above the level of the hospital. The building is heated throughout by steam generated in the engine room in the basement of the eastern wing. The lighting is by electricity generated also in the engine room. In each ward there are large clocks, the faces of which will be illuminated during the night. The object of this is mainly a therapeutic one,—it will enable the sleepless to while away the weary hours.

The Laundry is situated in a detached stone building some distance behind the central block. It is operated by steam power, equipped with three steam washers, a centrifugal clothes wringer, steam mangles, steam drying closet, and a convenient ironing table. Running from top to bottom of every wing is a large zinc lined shaft, and into these the maid throws the linen from every ward and room. It is thus, by its own weight, collected at the basement, and from there it is an easy task to transport it to the laundry, compared with what it would be to carry it away from each ward separately.

The Balconies.—On the southern façade of each large ward and between the round towers there are balconies, where in favorable weather the convalescents can sit and enjoy the pure air and unrivalled prospect of the great city lying at their feet, the noble St. Lawrence and the green country bounded by the mountains to the south and east.

The Medical Pavillion.

The medical pavillion comprises :—

1. Three large public wards, each capable of accommodating 32 beds, a children's ward of 15 beds, and, in addition, 15 private wards and 6 isolated wards. The large wards are each 123 feet long by 26 feet 6 inches wide. The ceiling is 13 feet high. The towers, which add so much to the beauty of the exterior of the wings, have been utilized by the architect for the closets and ward baths. Between the latter and the wards there is a system of cross-ventilation. Off the corridors leading to each of the large wards there is a ward kitchen ; a day and

dining room for patients able to move around ; also a room for the head nurse, and one large private ward.

2. In the fourth story of the medical wing we have placed the private and isolation wards. The latter are so arranged that the nurse in charge can have no need of communication with either the private or public wards. All the wards are large, airy and well ventilated.

3. *The Medical Amphitheatre.*—This large room is situated on the ground-floor, and is on the same level as the lowest of the three public wards. It is seated to comfortably accommodate 250 students. The area is large and well adapted for the demonstration of cases. An improved and convenient method of displaying diagrams on a large iron screen has been found of great use and practicability. Another piece of furniture which has been found to be admirably adapted for its purpose is an iron stool for the examination of patients. J. H. Chapman, of this city, is the inventor of this useful article. It was made by Lentz, of Berlin. It enables one to demonstrate, with much ease to the patient and clearness to the class, physical signs, etc. The theatre will also be furnished with an improved projection apparatus, whereby morbid specimens can be demonstrated before a whole class.

4. *Clinical Laboratory.*—Two rooms adjoining the theatre are to be devoted to this purpose. We have, first, a large chemical and bacteriological room fitted up after carefully considered plans by Dr. Ruttan. It is furnished with several working tables, where the resident staff, clinical clerks and others can work out the necessary examination of the secretions and excretions.

The bacteriological outfit contains all the necessary and most approved apparatuses and appliances used in the study of the micro-organisms. Among other things it is supplied with a Koch sterilizing apparatus, two dry-heat sterilizers, a large thermostat, serum inspissator, vacuum apparatus, various filtering apparatuses, counting apparatus, etc., etc.

The chemical outfit, besides the usual reagents for quantitative and qualitative estimation of the products of secretion and excretion, contains an improved Satorius balance, a polari-

scope (Schmidt and Haensch's improved for sugar), various varieties of gas generating appliances, Kjeldahl's apparatus for estimation of nitrogen, a Westphal balance, and an improved centrifugal machine.

A room adjoining the clinical laboratory is to be utilized for keeping the various models, instruments and appliances used in diagnosis and treatment. We can only mention a few of the more important.

A complete set of Steger's preparations, representing the anatomy of the chest and brain. The set includes in all upwards of 30 different casts, and will be of extreme value, not only to the attending physician, but also to the students and nurses. Any one who has had experience of these casts in teaching will readily understand their great value. For topical diagnosis in cerebral disease, they are especially to be recommended.

There are also several extremely beautiful wax models of different parts of the central nervous system, made by Tramond of Paris.

There is a very complete set of microscopes and appliances for blood examinations.

The electrical outfit is furnished by Gaiffe of Paris.

Altogether, no reasonable expense has been spared to furnish the medical side with all modern appliances used in the diagnosis and treatment of disease.

The Surgical Pavillion.

The Surgical pavillion is 320 feet long, and has accommodation for 160 patients.

It comprises first, three large wards, 123 feet x 26½ feet, each capable of accommodating 32 patients ; one ward for 12 patients ; one for 6 patients ; one for 8 patients ; and one for 14 children. There are 10 private wards and 4 isolating wards. Each large ward has adjoining it, a bath room and lavatory, ward kitchen and a dining room for convalescents. The same system of ventilation is carried out as in the medical department.

The Operating Theatre.—This is situated at the rear and comprises a theatre with a seating capacity for 300 students ;

an anaesthetic room, 26 x 10½ feet ; an instrument room ; a room for preparation and storing of dressings ; a room for sterilizing instruments and dressings ; an after recovery room, and a surgeon's private room.

The theatre is lighted from the roof and by a large window extending from floor to ceiling. The floor is laid with granuloid and so graded that it can be flushed with great facility. Altogether no expense has been spared to make it meet the most urgent requirements of modern antiseptic surgery.

THE PATHOLOGICAL INSTITUTE.

This institute, which has already been built, but whose interior fittings are not yet complete, may be said to consist of a mortuary and post-mortem theatre with its accompaniments ; and what the necessary accompaniments of a post-mortem room are has been construed by the donors of the hospital in the most liberal spirit, so as to comply to the fullest with the demands of modern pathology. And when completed the department will be such as to render possible investigations of every nature, microscopical, chemical, bacteriological, and experimental, that may arise in connection not only with the study of the cadaver, but also with the experimental study of disease in the living.

The building is 85 feet long, and 40 feet broad ; it is connected with the end of the medical wing by a narrow portion, 12 x 27 feet, which, upon the first floor, forms the private laboratory of the director, and upon the second is utilised in part as the connecting passage way, on a level with and leading into the main floor of the hospital. By this passage there is direct communication with both the medical and surgical wards, so that without passing outside the building, or carrying up or down stairs, cadavers can be brought to the elevator in the pathological department and lowered there to the mortuary.

There is also an entrance to the laboratory on the ground floor on the inner side of the building, which leads also into this passage beneath the medical theatre, and on the outer side is a doorway sufficiently large to permit hearses to be backed in out of public observation.

As will be seen from the plans, more than half of the ground

floor is devoted to the purposes of a mortuary. Close to this large entrance hall is the mortuary proper, a room, roughly 16 x 18 feet, with cement floor and refrigerating apparatus. This will consist of a series of deep cupboards, between the walls of which will percolate the water draining from an ice chamber above; each cupboard will be provided with a sliding tray to receive the body. The semi-circular end of this floor forms a room of 17 feet radius, to be used as a waiting room for the friends of the deceased, or for services whenever a funeral takes place directly from the hospital. This room can also be employed for the holding of inquests if need be, a smaller room adjoining serving as a waiting room for witnesses, etc.

The other half of the ground floor is divided into four rooms, two of these are large and well lighted, and one of these will be devoted to experimental research. To this end it will contain a water motor for running recording instruments and the centrifugaliser; constant pressure and constant rate of the motor will be obtained by placing a cistern on the top floor of the building. The second of these rooms will be of the nature of a workshop and preparation room, and will contain apparatus for glass blowing for the sterilisation and preparation of bacteriological media, and cupboards for storing the same, and a work bench for rigging up simple pieces of apparatus.

The first floor is specially devoted to post-mortem work and morbid histology. Occupying the further end of the building is the post-mortem room, which thus secures ample light, there being a large skylight immediately above the operating table, and a large window at either side, and all round, above the amphitheatre, a series of smaller windows. There is ample floor space for the performance of autopsies, while the theatre proper is made peculiarly steep so that the students can look directly down upon the post-mortem table at as acute an angle as is compatible with comfort. Students and spectators have to enter the theatre from the second floor, and are separated thus from the pathologist and those assisting actively at the autopsy, who alone will be permitted to be immediately around the post-mortem table. It is unnecessary to describe the table, and the various arrangements for the examination of tissues,

flushing and drainage. These are being made as perfect as possible. The elevator, which below opens into the mortuary, opens upon the first floor into the post-mortem room.

From this pit of the theatre a door leads into the preparation room, supplied with the necessary apparatus for cutting, mounting and examining the material obtained at the autopsy, in both fresh and hardened condition. It is intended that a certain number of students, at each post-mortem, cut and examine the removed tissues, and thus, besides completing anatomical diagnosis of the case, gain practical instruction in the methods of morbid histology. A store of bacteriological media will be kept in this room for employment at each autopsy.

Opening and adjoining the preparation room is a large chamber, well lighted on two sides, whose internal measurements are 35 x 28 feet. Tables are being placed beneath the windows of either side for the purpose of microscopic demonstrations (in connection with the demonstrations of the autopsies of the week). The side walls and centre of the room will hold cases for the exhibition of type specimens of the various morbid processes. From the further end of this room passes the office and private laboratory of the director of the institute.

Upon the second floor are laboratories for bacteriology, pathological chemistry and photography, to be supplied with all the necessary apparatus for research, while in the roof are half a dozen well lighted rooms, some of which may eventually be employed as rooms for those engaged in special researches.

Apart from the post-mortem theatre and the large histology room it is not proposed that this be a teaching laboratory. It is hoped that it will become essentially a laboratory for research and post-graduate work.

Formal Opening.

On Saturday, the 2nd of December, the formal opening of the hospital took place. Invitations for the opening were issued for half-past two o'clock, but long before that hour not only the ward in which the proceedings were to take place, but the corridors were crowded, while hundreds were occupied in examining the different wards, rooms, &c., &c.

The Vice-Regal party entered the room preceded by Mr. R. B. Angus, president of the hospital.

The Governor-General and the Countess of Aberdeen were accompanied by Miss Sullivan, Miss Wilson, Capt. Kindersley, Capt. Urquhart, Mr. Munro Ferguson, Dr. Shirres.

The following Governors of the Hospital were on the platform ; —R. B. Angus, President, Sir William Dawson, Mr. W. C. Van Horne, President of the Canadian Pacific Railway ; Mr. L. J. Seargeant, General Manager of the Grand Trunk Railway ; His Worship the Mayor of Montreal ; Mr. W. W. Ogilvie, President of the Board of Trade ; Mr. E. S. Clouston, General Manager of the Bank of Montreal ; Mr. A. T. Patterson ; Robert Craik, M.D., Dean of the Medical Faculty of McGill University. The members of the Medical Staff were also present, viz. :—T. G. Roddick, M.D., Surgeon ; James Stewart, M.D., Physician ; J. G. Adami, M.D., Pathologist ; and Mr. Robson, Secy. Supt. to the hospital.

PRESIDENT'S ADDRESS.

The following is the address presented by Mr. R. B. Angus, president of the Board, to His Excellency :

To His Excellency the Right Honorable Earl of Aberdeen, P.C., Governor General of Canada :

We, the governors of the Royal Victoria Hospital, desire to express the gratification which we experience in being honored by the presence here to-day of the representative of our Gracious Sovereign at the inauguration of the hospital, which, by permission, bears Her Majesty's most honoured name.

The feelings which impelled the founders to seek the privilege of styling the institution the Royal Victoria Hospital may be accepted as an indication and example of the loyalty and devotion to our Queen which prevail throughout Canada, and prompt to honourable deeds.

The governors extend their hearty thanks to the Countess of Aberdeen for her countenance on this occasion, and feel assured of her kindly sympathy with the beneficent work of the hospital.

Your Excellency, as official visitor and protector of the constitution of the hospital as provided by the charter, will ever be received with cordial welcome by the governors.

The hospital owes its existence to the munificence of the Right Hon. Lord Mount Stephen, and the Hon. Sir Donald

Alexander Smith, K.C.M.G., who, in the year 1887, in commemoration of the jubilee of Her Majesty the Queen, jointly made a donation of one million dollars for the purpose of erecting and maintaining in Montreal a hospital for the healing of the sick of all races and creeds, without distinction, for the advancement of medical science and for the establishment of a training school for nurses.

The application of the founders for a site on the margin of the park indicated as suitable, because of its elevation above the densely populated city, was freely granted by the City Council, but a question having been raised as to the propriety of erecting the hospital buildings upon the site originally selected, the founders, with ready generosity, purchased the land adjoining thereto and conveyed it to this corporation. On the additional property so acquired the main buildings now stand.

After much careful study by eminent medical men in Montreal, and consultation with some of the greatest authorities on the building and management of hospitals in England, the preparation of our plans was entrusted to Mr. H. Saxon Snell, of London, an architect of much experience with such designs, the object of the board being to secure a building having some degree of stateliness and worthy of its commanding site, and to combine in it, with due regard for the condition of this climate, the most approved sanitary arrangements and the best facilities for hospital work.

On the 25th day of June, 1891, the 54th anniversary of Her Majesty's reign, the work of erection was commenced. It has been carried on without interruption, and the building now stands complete, presenting as the governors venture to believe, a creditable example of good workmanship, a satisfactory realization of the donors' views and an ornament to the city.

In compliance with the often repeated injunctions of the founders, the best and most approved instruments and appliances have been procured, the aim being that the furnishings and equipment should be so thorough and complete as to meet, if possible, the utmost demands of the highest medical and surgical science of the present day.

It was early seen that the cost of executing the plans, as supplied by the architect, would far exceed the first estimates, and this, with other liberal provisions, most necessarily en-

croach upon the funds originally intended for endowment; but the founders again intimated the hope that the work would in no way be degraded, and, with abounding liberality engaged to supplement the revenue to an extent sufficient to meet the immediate requirements of the hospital. While a scale of expenditure is provided for the present, the governors are aware that the filling up of wards in the expansion of the hospital will in the near future involve a considerable increase in the working charges. It has always been contemplated that the hospital should rest its support to some extent on the broad basis of public favour, and the governors are confident that they can rely upon the benevolence of their fellow citizens to adequately sustain a work so charitable in its objects and so advantageous to the community.

The governors are happy in having secured the gratuitous services of prominent and accomplished physicians and surgeons, whose teaching and practice will, they believe, acquire for the hospital a high reputation in the medical profession.

Amid the rejoicings of the day a note of sadness unhappily intrudes. Sir John Abbott, the first president of the hospital, who had devoted much time and labour in the work of organization and construction, was, unfortunately, not permitted to see the crowning of the edifice, and the loss of his directing hand was a sorrowful experience to the board.

The governors, in addressing Your Excellency, crave the privilege of uttering a word of thankfulness for the great benefit bestowed upon our country, and especially on the city of Montreal, by this benefaction, which is appreciated, not only on account of its costly character, but because of the wide spirit of liberality in which it has been conceived. We trust it will realise the highest aspirations of the founders by serving for generations to come as a powerful means of advancing medical science and treatment, and thus contributing to the comfort and relief of suffering humanity.

Thanking Your Excellency for the interest you manifest in this noble work, we now ask that you will be pleased to declare this hospital open and devoted to the high purpose for which it is designed.

By order of the Board of Governors.

(Signed) JOHN J. ROBSON, Secretary.

35 R. B. ANGUS, President.

The Governor-General made the following reply:—

I thank you heartily for this address. The eloquent and warm expressions of loyalty which are here expressed, and which, indeed, pervade the whole statement, will be gratifying not only to myself as Her Majesty's Viceroy, but to the Queen's loyal subjects in Canada, who are here so numerously represented to-day. Such expressions are on any public occasion graceful and opportune, but are, of course, more conspicuously appropriate in relation to the event of to-day, when we are met to inaugurate this magnificent building, which originated in a desire to commemorate the jubilee of our beloved Queen, and has now been dedicated to this noble work, and is destined to bear Her Majesty's illustrious name. Ladies and gentlemen, I feel sure that you will have listened with interest to this address, because it has given us a brief review of the history of this enterprise since its inception, and though you doubtless were tolerably familiar with the chief features of the narrative, its recital will have quickened in your minds the impressions and sentiments which it cannot fail to arouse, and, doubtless, the uppermost thought in the minds of all of us with reference to the princely liberality of the founders of this hospital. They have performed a deed of great munificence, of practical philanthropy and of Christian benevolence. Ladies and gentlemen, if, as I have said, your minds are full of the thought to which I have referred, it is my duty to endeavour to voice that sentiment, but here I am confronted with a difficulty. If I endeavour to give utterance to your feelings and to mine with reference to these two benefactors, one of them, if he is present, will certainly consider that I am saying too much; if, on the other hand, I am guided by what I know are his feelings and wishes, you on your part will naturally consider that I have said too little. That, I think, is a dilemma. The only way out of it that occurs to me is to confine myself chiefly to the safe ground of congratulation. Assuredly we may offer most hearty and genuine congratulations on this occasion to Sir Donald Smith and to Lord Mount-Stephen, and also congratulations to you, the citizens of Montreal. Now I have to add one word in regard to the personal element. I have to confess, or, perhaps, I should rather say I may claim, that I found it necessary to put pressure upon Sir Donald, otherwise he would have ab-

sented himself on this occasion. I cannot say I see him present; he may be hiding himself in some corner of the building, but I hope he is within measurable distance. Evidently, quite characteristically, he is not present on this platform. I think I should have recognized him if he had been here. We all know enough of Sir Donald to understand why he wished to be absent, especially since it was impossible for his brother-benefactor, Lord Mount-Stephen, to be here. We appreciate that feeling, and we also appreciate his readiness to put aside his own personal inclination on this, as on many a previous occasion. So, then, ladies and gentlemen, I shall simply record, in the most emphatic manner possible, our congratulations to Lord Mount-Stephen and Sir Donald regarding the happy and auspicious inauguration of the splendid and permanent work which they have been the means of establishing. Another pleasant feature in the occasion is this, that there is no reason for a moment to suppose that the establishment of this hospital, endowed with all the best and most excellent equipments and appliances of modern medical science, means any disparagement to that excellent institution, the Montreal General Hospital, which has been doing such splendid work for many years (applause). There is always room for improvement, but it is fitting on this occasion, when we are met together to organize a great work in the cause of suffering humanity, to remember what the General Hospital and the other hospitals have done in that cause. I had an incidental evidence of this to-day, and sometimes a straw shows which way the wind blows. I refer to the case of a young girl who, under Lady Aberdeen's guardianship, being one of her party from the Irish village at Chicago, came here on her way to Ireland, but was taken ill, and had to be sent to the General Hospital. She has just come out, having been most carefully nursed through a most severe attack of diphtheria, looking, as I saw her about an hour ago—I am able to testify to it—very well and, in fact, exceedingly pretty. Lady Aberdeen, who was also present, concurs with me in this. At any rate, this young person says she had a good time, and she shed tears on her departure, because she was sorry to go. I noticed a marked expression of applause and appreciation when reference was made in the address to the good fortune of the governors in securing the services of such a distinguished band

of physicians for this hospital. I am sure the students understand the benefit of that in an especial degree. I shall not be out of place also in alluding to our appreciation of the cheerful manner in which they inaugurated this meeting with melody, and I am sure we ought all to be obliged to them for the entertainments they provided for us during the "interval," because there are such a large number of ladies and gentlemen who wish to show interest in these proceedings that the passages have been blocked, so that it was difficult for us to enter. I noticed that the comprehensive character of the institution was mentioned in the address, viz., that it is open to all who are in need of the ministrations of such a benevolent work as this. I cannot also help alluding to what I have heard with regard to a proposal which will be made to the governors, with reference to still further enlarging the benefits of this institution in the way of medical instruction and training, namely, for ladies who wish to take up a medical career. That is a subject on which I shall offer no opinion here. No one need, of course, employ a lady physician unless he choose ; but if ladies do adopt the profession they should be given every opportunity to keep up the character of this great department of science. In India there are special circumstances which bring about the fact that in many cases only lady members of the medical profession can have scope for their skill. In a vast number of cases, no doubt, there has been a great deal of suffering in that country from want of female medical skill and attention. I pass on to another topic in the address, viz., the fact that this great work, having been brought to its present point, must be carried on with efficiency : there must be means for the inevitable extension which will be found necessary in some respect or another. That means that the hospital should be a matter of personal interest to the whole of the citizens of Montreal ; it means that they should have a share in its promotion, and there is only one way that I know in which this can be done. It means the old story, an appeal to the purse, or rather, I should say, it means the privilege in some way or other of taking a practical interest in the work. One of the governors has promised the splendid donation of $25.000 to this work. Well, at any rate, that is a very effective example, which I hope will be followed out, if it is to be really representative of support. Of course, there

should be every degree of donation and support, from the smallest up to such comprehensive sums as I have mentioned. That is a sufficient hint, I trust, on this point. Ladies and gentlemen, it would be wrong for me, under present circumstances, to continue my remarks, and I shall only conclude by again expressing the general feeling of intense satisfaction at the benefit in store for the many suffering members of society in this community. I am sure upon no work could the divine blessing be more fitly invoked or more surely looked for and expected; and though there may be no actual religious service in the ordinary sense of the word, these proceedings are in the fullest sense an occasion where thankfulness of a devout kind cannot fail to be expressed in every heart and mind, whether audibly or otherwise, for the fact of this hospital being endowed, as it has been, is an example of the best method of carrying out in a practical manner the great precepts of Christianity. I now beg to declare the Royal Victoria Hospital open.

Dr. Craik, president ot the Hospital Medical Board, being called on for an address, said :—

On such an occasion as this, which marks the inauguration of a new centre of charitable and humanitarian work, it would seem to be fitting that a few words should be said as representing our Medical Board and all those who are to be more immediately concerned in the cure and welfare of the sick. As one of their number, I would wish to say that we fully recognize and appreciate the importance, and even the solemnity, of the duties which are to be committed to our care. Our mission is to save and prolong human lives, to relieve and to mitigate human sufferings, to cure disease, and, as far as possible, to restore the sick and the maimed to health and usefulness. All these are our solemn duties, never, under any circumstances, to be lost sight of, and all others must necessarily be subordinate to them. If, in carrying them out, we can be instrumental in promoting the cause of sound medical education, or in giving to our nurses a good practical and scientific training, it will be our privilege and our pleasure to do so; but these and all other objects must be secondary to the great object of ministering to the sick. But onerous though our duties must necessarily be, it is our good fortune to be able to enter upon them with a degree of cheerfulness, and

even lightheartedness, not given to many. All that wealth and open-handed liberality could do to lighten our labours has been done by our generous founders, and no expense has been spared to make the Royal Victoria Hospital as complete and perfect, in all its appointments, as any hospital at home or abroad. Such generosity on the part of our benefactors makes it incumbent upon us to show to the world that their gifts have been well bestowed, and to see to it that the best possible use shall be made of them. And how are we to make the best possible use of these gifts? By so applying them that they shall do the greatest good to the greatest number of those whose needs are greatest. It seems to me that this is the principle upon which all charitable and benevolent institutions should be administered, for while it gives free scope to the most boundless generosity, it also calls for the practice of the truest economy, for true generosity is neither wasteful nor extravagant, nor is true economy either parsimonious or mean. It should, therefore, and it shall be, our care to treat our patients generously, but. at the same time, with true economy, letting them want for nothing that will conduce to their speedy and complete recovery, but being careful not to waste upon a few what, under better management, would be sufficient for the needs of two or three times their number. The idea has in some way got abroad in certain quarters that the Royal Victoria Hospital is to be in some sense a show hospital, and that in its management expense is to be a secondary consideration. I am sure that I am expressing the sentiments of the founders when I say that nothing could be further from their intentions. Advanced and enlightened efficiency has been their aim from the first, and anything like useless display has always met with their unqualified disapproval. If the stately and well-appointed buildings occupy one of the most beautiful and salubrious sites on the southerly slope of our mountain, it is because it is free from the dust and the din of the great city, and will give to the patients the priceless boons of fresh air and abundant sunshine. And to what better use can these advantages be put than to benefit the sick? What class stands so much in need of them, and what class is likely so much to profit by them? But if money has been freely spent in the building and equipment of the hospital, it has been on the principle

that money well applied at the commencement of a great undertaking is generally the truest economy, and renders the subsequent management much easier and less costly. The expenditure for building and equipment may now be said to be practically at an end, and the expenditures for management and maintenance to have been just begun, and we must now be mindful of the fact that from this time forward our expenditures must be from revenue and not from capital, and as our income is, so only must be our expenditure. It is not for me, nor is this the time, to enter into any detail as to our future revenue. Suffice it for the present to say that the same generous benefactors who have reared this stately edifice have also provided for the immediate wants of those for whom its doors have this day been declared open. And what means the opening of these doors to-day? It means the advent among us of another institution for the relief of suffering, and it also means that our city, growing rapidly as it is in a commercial, in a social, and in an educational sense, is also growing in an humanitarian sense. Montreal has seen the opening of many institutions for the relief of suffering. The old Hotel Dieu, the old Montreal General Hospital and the newer hospital of Notre Dame, and many others of lesser note, all of them doing good and noble work. But, ladies and gentlemen, this Royal Victoria Hospital now comes to you as your latest born. Let it be none the less welcome on that account. It does not seek to supplant in your affections those other institutions of which you are so proud. It does not seek to take from them what is necessary for their sustenance, but it does ask you to keep for it a warm corner in your hearts, to welcome it with hearty good will, and to accept it as a worthy addition to your family. It will endeavour not to be burdensome to you, and will push its way in the world as well as it can, and will endeavour in every way to be a credit to you. But if at any time in the future, in helping others, it should itself be in need of a helping hand, it feels assured that you will not send it empty away. May we not, then, fairly hope that the Royal Victoria Hospital, starting to-day upon its mission of mercy, may go on from generation to generation, ever increasing in usefulness and ever growing in the affectionate good-will of the community, and that it may become a legitimate source of

pride to its generous founders, a public benefit to the city of Montreal and to Canada, an honour to our Most Gracious Sovereign Queen Victoria, whose name it bears, and who is so worthily and welcomely represented by our illustrious visitors, Their Excellencies the Earl and Countess of Aberdeen, and last, though by no means least, an evidence that this great and growing young northern country, with its hardy and self-reliant population, will not willingly be behind either in works of benevolence or in those more practical and utilitarian qualities, all of which tend to make a nation great, prosperous and happy.

Mayor Desjardins made a very happy speech, and alluded to the many important events which had characterized the year just about to close. The first welcome Their Excellencies had received was on the occasion of the opening of that fine palace of commerce, the Board of Trade building, which spoke so eloquently of Montreal's progress from a commercial point of view. On their second visit Their Excellencies were asked to open the Redpath Library, and on their present visit Their Excellencies had opened the new wing of the building of the Art Association, and now they had gathered to acknowledge the generosity and noble-hearted charity of two great men, Lord Mount-Stephen and Sir Donald A. Smith. After alluding to the various hospitals which had been erected in the city, His Worship said that while erecting new monuments, the old ones should not be forgotten. He alluded to the Nelson monument, which should be a grateful reminder of Nelson's great naval glory, and at the same time of the good-will and harmony between the two races from which sprang its construction, in the same way as this harmony was now promoting both races to co-operate in the erection of a monument to that great Frenchman, Maisonneuve. He spoke of the loyalty of the French people to the Government which had treated them so well when France ceded Canada to Great Britain. On behalf of the population of Montreal, he wished to thank His Excellency for his kindness and thoughtfulness in cabling the true circumstances of the foolish and regretable attempt on the monument to the British Government. He had little more to say, but he wished to remark that it was a strange how logical events were. It was not so many years go since the city of Montreal voted $1,000,000 to secure the

ROYAL VICTORIA HOSPITAL.

building of the Canadian Pacific Railway, and they had already secured a fine return for their investment in that patriotic undertaking, and yet they found to-day two men, who stood at the head of that great enterprise, which many considered at that time was beyond our means and impossible of completion, coming back and giving the city of Montreal a further magnificent return for that million. In closing, the Mayor wished long life to the founders, so that they might see the happiness they had created.

But before the proceedings closed, His Excellency had a few more words to say:

"As I am informed that this part of the proceedings is about to close, I mean this gathering, and we are to have an opportunity of inspecting the hospital, I just wish to say before we leave, that I think it would certainly be part of my duty, as well as my privilege, to take the earliest opportunity of submitting for Her Majesty's gracious perusal some report of the proceedings of to-day. I cannot doubt that Her Majesty will be graciously interested in hearing of the inauguration of this magnificent building, which, as I have already reminded you, was originated with the idea of, in some sense, celebrating Her Majesty's jubilee. I think no account of these proceedings would be complete without some reference to the extremely graceful and appropriate remarks of His Worship the Mayor of Montreal. I think we cannot conclude without, in the first place, giving three cheers for Her Majesty the Queen, and, secondly, three cheers for the founders of the Hospital."

The deafening cheers which followed were led by the Governor-General himself.

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THE ROYAL VICTORIA HOSPITAL.

The official opening of the Royal Victoria Hospital by His Excellency the Earl of Aberdeen, on the 2nd of December, marks a new era in the medical history of Canada. The magnificent structure which has been formally dedicated to the relief of the sick and afflicted, is also to be a training school in the art and practice of medicine. The generous benefactors, recognizing to the fullest the necessity that an hospital, to be successful, must, in addition to its work for the relief and cure of disease, be also a clinical school, have made ample provision for the carrying out of the latter. No expense has been spared to place the hospital in a position to carry out both of these great aims. The great departments of practical medicine are each fully and independently provided for. For both medicine and surgery complete clinical institutes have been established, and furnished with all modern appliances for the investigation and treatment of disease.

Through time the far-seeing and generous provision of the Founders will bear fruit. The one dominant idea impressed from first to last by the Founders on all those having to do with the building and its equipment was, thoroughness in every detail. Everyone who closely examines the building, now that it is ready for the reception of patients, will be fully convinced that these instructions have been faithfully carried out.

The medical profession, and the people of Canada as a whole, are indebted to Lord Mount-Stephen and Sir Donald

A. Smith for a building which is a credit and an honour to the country. We hope that they may long be spared to enjoy the pleasure of seeing the good arising from their wisdom and generosity.

McGILL UNIVERSITY.

The interesting account by Sir William Dawson of his long connection with McGill University will be read with interest by all our readers, especially by those who have taken either their general or professional course under the distinguished Principal.

At the present time, the number of those living who had finished their course before Sir William Dawson received the appointment of the Principalship are few indeed. Thirty-eight years is a long period in the active professional life of man, and it more than covers the course of the vast majority of graduates.

With very few exceptions, all the medical graduates of McGill now living have been under Sir William Dawson's tuition, either in the botanical or zoological classes. The story told by the Principal is one that greatly redounds to the credit of all those who have taken a part in contributing to the position held by McGill University at the present. From 1855 to 1893, a period of thirty-eight years, the University has advanced from a comparatively unknown position to take a worthy stand among the great schools of the American continent.

Previous to Sir William Dawson's arrival in 1855, the University was practically unknown, except through its Medical Faculty. For many years previous to this period, the members of this Faculty were urgently striving to impart a thorough groundwork in medicine. How well they succeeded is now a matter of history! Had it not been for the earnest, able work of the Medical Faculty in the two decades previous to 1855, it is questionable whether McGill would be in existence to-day. The disinterested work of the early workers remains to be chronicled. We hope before long to see a worthy historian come forward to record the deeds of these men.

The record of McGill since Sir William Dawson filled the Principalship is one of continuous progress. Faculty after

Faculty has been established, until now there are no less than five Faculties connected with the University, all full of life and vigour, all with great futures before them.

THE BEAUPORT ASYLUM.

The Beauport Asylum is once more attracting the lively attention of the public of the Province of Quebec. This time the trouble is more due to the apparently crooked methods of the Provincial Government than to the shortcomings of those having to do directly with the care of the insane in this institution. The history of this asylum during the past fifty years—that is, since the beginning of the contract which expires during the current year—is a disgraceful one. The original contract allowed the proprietors $132 per annum for each patient. This contract, it is currently reported, allowed the owners to make large sums of money out of the poor patients. The Government had little or no control over the institution, and, what is worse, apparently did not care to have any. From the pen of D. Hack Tuke, M.D., we have evidence of the strongest character showing in lurid light the way in which the proprietors of the Beauport Asylum housed and treated the unfortunates committed to their care. Writing of the asylum, Tuke says: "The ventilation is most imperfect, and it was not denied that in the morning their condition (rooms) was the reverse of sweet. Some of the cells—for cells they must be called—were very close when I visited them. How such rooms came to be built for lunatic patients, for whom good air and sufficient light are so important, it is difficult to comprehend. I must add that in some parts of the house the patients were barely clad, and presented a very neglected appearance altogether. . . . The number of attendants is quite insufficient, and I cannot say I was favorably impressed with their appearance. Where so much importance is attached to economy, this cannot excite surprise.

"The higher one ascended in the building the lower the condition of the patient. The corridors were much crowded, and

the amount of mechanical restraint was excessive. In the worst ward the sight was in the last degree painful to witness. . . . . They (the patients) were in their shirts, and over their exposed persons flies were crawling in abundance—a spectacle which it must suffice to mention without characterizing further.

"It is needless to describe in more detail an institution which, however willingly I may praise where praise is due, is so radically defective in structure and so fundamentally different from any well conducted institution of the present day, in the matter of moral, to say nothing of medical, treatment, that no tinkering of the present system will ever meet the requirements of humanity and science."

This description of the Beauport Asylum from the pen of a distinguished alienist created a sensation at the time, but it unfortunately was not followed by any genuine change, for up to the present time nearly all the same grave faults pointed out by Dr. Tuke have existed.

It would be necessary to go back many decades to find such a condition in any asylum out of the Province of Quebec.

Meanly and insufficiently clad, living in badly ventilated cells, oppressed with mechanical restraint, insufficient and poor attendance, poisoned with a filthy water supply ; these are some of the trials which the unfortunate insane of Beauport have had to bear for years.

In spite of this disgraceful record of incompetency and meanness, the Government of the Province of Quebec have the assurance to tell the people that they are under a "moral obligation" to pay the proprietors a sum greatly exceeding the true value of the property. This "deal" was about being carried out when the Legislative Council, by their votes, have cut it short for the present at least.

The only moral obligation resting on the people's representatives in the local Parliament was, and is, to see that the insane should be treated as well in the Province of Quebec, as elsewhere.

If they ever felt any "moral obligation" in the matter it should have taken the form of getting rid of the proprietors,

bag and baggage. A modern asylum capable of comfortably housing more pationts than the present structure can, it is said, be built for $100,000, less than the sum the Government proposed to give for the latter. Still a majority of the Assembly voted as the machine directed them.

As a proof of the utter incompetency of the local legislature to deal with the subject of the treatment of the insane, we have only to instance their effort to perpetuate the "farming out" system for the next sixty years. The nuns, to whom it is proposed to hand over the Beauport Asylum, may do better than the present proprietors; they can hardly do worse. The experience of the Province in the past, however, does not lead one to have a very high opinion of nuns as asylum administrators.

The system of "farming out" the insane to any one is indefensible. While the Province is ruled by a degraded politicalism and a grasping ecclesiasticism there is no hope for improvement.

PROCEEDINGS OF THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Owing to the multitude of good things contained in the proceedings of this Society, the publication of their reports has fallen sadly into arrears.

A committee has been appointed to remedy this, and it is hoped to so condense the material that each month's work will be presented to our readers in the following number of the JOURNAL. This advantage, it is hoped, will compensate for any necessary abridgement of the material presented.

It has been felt that many of the communications would be more advantageously placed as original communications or as Clinical and Pathological Reports, than as Society Proceedings, and this will be done in suitable cases when the consent of the contributors can be obtained.

It is evident that if the discussions on public matters, which now form so important a part of the Society's programme, could be published without delay, it would be a distinct gain to the Society and the public.

ABOUT TWO PUBLIC REFORMS.

I.—Reform in Coroner's Law.

The entire separation of the medical and legal duties in connection with inquiry into suspicious deaths has been recommended by the special committee of the Medico-Chirurgical Society, as the only solution of the Coroner problem. Whether the office and title of coroner should be retained or not, they regard as a legal and not a medical question, and not in any case necessary to secure the reform. The amateur law of medical coroners and the amateur medicine of legal coroners could be avoided by separation of the duties, and there can be no doubt that much good would result; and we learn that this has been the case elsewhere.

The meddlesome interference of juries they would do away with by only summoning them in appropriate cases, and the present constant striving after petty economy would no longer be needed, if a system of fixed salaries were adopted, as recommended by the committee.

It is apparent to any one having experience with this court that the most fatal disease is "natural causes," and that its ravages are far more to be dreaded than the pestilence which walketh in darkness. Enough money is spent in obtaining these nonsensical verdicts to thoroughly investigate double the number of deaths by a rational system.

The Society appears to have prescribed the right remedy, but unless the legislators or the public make it their business to see that the prescription is followed, we fear that the knowledge of what ought to be done will not do much good.

II.—Death Certification.

The recommendation of our local medical societies in the matter of death certification is a matter of much interest.

The societies advised that death certificates for the city of Montreal shall be signed only by some legally qualified physician, either the medical attendant during the last illness, the medical health officer, or the coroner's physician.

These recommendations were made in response to an inquiry

of our city health officer, Dr. Laberge, and in view of the alleged tendency of doctors to differ, it is satisfactory to know that the Medico-Chirurgical Society, the Société de Médicine Pratique and Alliance Médicale all arrived independently at precisely the same conclusion in the matter. Unfortunately it was not found possible to obtain an amendment to the city charter at this session of the Legislature.

There are, we understand, certain technical ecclesiastical difficulties in the matter of registering deaths at the health office, but these should be surmounted, and the power to issue burial permits vested solely in the health office, which should first apply to the proper legal authorities, if there is any suspicion of crime, or if the certificate is irregular.

As a fine instance of what a law on death certification should *not* be, we append the clause of our present city charter, which works so well that the medical health officer usually hears of the death about a week after the body has been buried.

A copy of Title XV., clause 17, from the charter of the city of Montreal, gives the following powers to the City Council :

" To compel the superintendent of any cemetery in the city, " or in any of the adjoining municipalities, to make and deliver " to the corporation regular returns of all persons buried in " such cemetery ; to regulate tho manner and form in which " such returns may be made ; to exact that in all cases of death " occurring in the city, the attending physician, or, in his ab- " sence, a member or friend of the family, shall, within such " time and under such penalty as the Council may determine, " furnish to such superintendent a certificate, signed by such " physician, member, or friend, stating the name, surnames, " age, birth-place, date, place of death, and the nature of the " disease ; and also to provide such other means of obtaining " correct and reliable information in reference to the mortality " and its causes, as the Council may deem necessary."

The moral of which is—save us from our friends !

THE

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THE THERAPEUTIC USES OF EXERCISE.*

By R. TAIT MCKENZIE, B.A., M.D.,
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In a recent lecture Dr. Wm. Osler told a popular audience that a desire to take medicine is the great feature that distinguishes man from the other animals, and he went on to say that instead of relying on "a tablespoonful three times a day," he should pay more attention to the principles of hygiene and their application.

Investigation has brought to light new facts from which laws have been formulated. The vital processes are becoming better understood, and diet, heat, cold, rest and exercise, have supplanted to a great extent the exclusive treatment by drugs of most forms of disease. The prescription of drugs is becoming largely supplementary to these other and more important agents. "As a physician advances in age," said the late Sir Andrew Clarke, "he generally places less confidence in the ordinary medicinal treatment than he did, not only during his early but even during his middle period of life." The modern doctor does not as often attempt to perform what Voltaire wittily defined as the miracle of reconciling health with intemperance.

The marvellous progress of the comparatively new science of

* Read before the Montreal Clinical Society, November, 1893.

Bacteriology has directed the attention of the medical world to the importance of preventing the dissemination of disease germs by the agency of earth, air or water. Experiments have shown the tenacity to life of the tubercle bacillus, its life, history and most favorite soil. May we not, in our eagerness to destroy these insinuating sources of disease, by methods which are too apt to include the patient in a common fate, be apt to neglect the best preventative we have, best because the most under our control; I refer to the rearing of a strong and healthy army of phagocytes begotten of good food, sufficient rest, and plenty of exercise.

The most fertile soil for the insidious microbe, is a puny and debilitated organism in which the life processes are slow and feeble; on the other hand if there be strength and activity, disease will not obtain its first foothold or even if it has already entered the body, will be attacked and speedily ejected from a system ready and able to combat such a danger to its well-being. "The physician is only the servant of nature; not its master." He can give the most favourable conditions but the healing power of nature does the rest. Fixity to a broken limb while repair goes on. Rest to the stomach while the ulcer heals. Extra nourishment or stimulants till the system again takes up its accustomed work.

It is along these lines that progress has been made in the past, and will be made in the future, rather than by the discovery of the Elixer of Life, the search for which has occupied so many great minds even to the present day. This search however, may be productive of as great good to humanity as was that for the philosopher's stone whose magic touch was to turn everything to gold. From that vain dream the science of Chemistry received its greatest impulse and may not the equally fantastic search for this life-giving compound incidentally reveal the great physiological laws that govern the life processes? So with increased knowledge we may determine the *proportions* of water, food and exercise, the three ingredients of the true *elixer vitae.*

"He who eats without taking exercise cannot be well," said

Hippocrates nearly four hundred years before Christ, and his statement of the case has not been improved upon or refuted since. Galen merely restated the same truth when he said: "The greatest danger to health results from complete inactivity, in the same manner the greatest benefit results from moderate exercise." It is this one Therapeutic agent in its various applications that I would take up for discussion.

The body has been looked upon by many, in fact by most of the medical profession as a chemical compound, and disease has been treated by the administration of chemical substances to restore the stability of the compound. This view of the body has been held almost to the exclusion of its other aspects and the natural reaction has swung the pendulum of thought into the mazes of Psychical research. Schools have sprung up in which disease is looked upon as a mental state. Healing is to be accomplished by faith, accompanied by the laying on of hands, bottled electricity or infinitesimal globules. The body is the expression of the soul, which controls its workings absolutely, so that disease is merely the imperfect expression of the spiritual element in man.

Another view of the body sees it as a complex machine, tolerating a good deal of interference and abuse with comparative impunity, with this advantage over the ordinary machine that it always tends to repair injuries to itself. It has within it the capacity of self-renewal as well as that of dissolution and unlike any other mechanism, the more it is used within physiological limits the better will it work, and the longer will it last.

Bodily movements are among the most potent measures that keep the human machinery in working order. The active use of the various muscle masses affects more than their own tissues. There is pressure on the abdominal contents, stretching of contracted chest walls, and removal of excess of blood from the head and torso out to the periphery where it circulates in the extremities.

A brief resume of the principal effects of exercise would perhaps express the idea I have in mind with greater clearness.

The two-fold function of muscular tissue is to be noted.

Each muscle acts as a reservoir for blood, and also as a means for producing heat and motion. Exercise acts as a stimulant to the heart, and "every active muscle," says Weir Mitchell in his book on Fat and Blood, "is practically a throbbing heart squeezing its vessels empty when in motion and relaxing to allow them to fill anew. Thus both for itself and in its relation to the rest of the body its activity is functionally of service." "The vessels unaided by change of posture and by motion lose tone, . . . so that defects of nutrition occur and with these defects of temperature."

There is a physiological law, known as the Law of Treveranus its discoverer, which may be briefly stated thus:—Each organ is to every other as an excreting organ." In other words to ensure perfect health, every tissue, bone, nerve, tendon or muscle should take from the blood certain materials and return to it certain others. To do this every organ must have its period of activity and of rest so as to keep the vital fluid in a proper state to nourish every other part. This process in perfect health is a system of mutual assurance and is probably essential to a condition of entire vigour of both mind and body. The excretory organ that we most persistently neglect is the skin, extra work is thus put on the intestinal and renal systems with the consequence that they are overworked and become diseased.

The skin is stimulated to increased excretion, most fully and naturally by the various forms of physical exercise. By the term physical exercise, I would include passive as well as active movements; from massage in which the will power of the patient plays no part whatever to the most complicated and delicate voluntary movements in which the training is more for the nerve centres than for the muscles.

In massage the tissues of the body are exercised by the operator for a therapeutic purpose by stroking or rubbing, kneading, pinching, rolling and beating the muscle masses and through them the underlying organs. "By these means are the muscles exercised without the use of volition or the aid of the nervous centres, while increasing mechanically the flow of blood to the tissues which they feed."

In duplicate movements, the will power of the patient is used in resisting or performing under resistance, movements of flexion, extension, circumduction, etc. These movements also require an operator, but Dr. A. Zander has invented a series of machines by which flexions, rotations, vibrations, etc., can be administered without the necessity of an operator. An institution in which these machines form the exclusive treatment has been founded in New York.

Simple active movements are made without either assistance or resistance. The simple and duplicate movements together with the various positions have been grouped and classified and named in the Swedish medical gymnastics.

The word "exercise," as usually employed would include only light and heavy gymnastics, walking and athletics.

In light gymnastics, movements are arranged in series with perhaps light dumbells or clubs. Muscular developement is quickly produced by these movements. Archibald MacLaren, of Oxford, found while training a squad of officers as instructors to the British Army, that "the muscular additions to the arms and shoulders, and the expansion of the chest, were so great as to have been absolutely ridiculous and embarrassing, for before the fourth month several of the men could not get into their uniforms, jackets and tunics without assistance. In a month more they could not get into them at all. One gained five inches in chest girth." In this connection it may be well to state the fact that in most leg movements the body acts as a heavy weight, and the exercise is as severe as if a hundred pound dumbell were attached to the foot the patient being on his back.

The use of fixed apparatus for suspension and support, horizontal and parallel bars, introduces another principle into gymnastics. The extremities are made the fixed points and the origin of the muscle is thus made its insertion. An application of the principle is well shown in the system of pully weight developing machines, worked out so fully by Dr. Sargent, of Harvard. By them, isolated groups of muscles can be exercised in such a way that by varying the weights used, the dose can

be accurately measured and governed. The machines can be adapted to the strength of the strong, or the weakness of the weak, that the greatest benefit may be obtained without the danger of overstraining.

The value of athletic sports as a therapeutic agent is questionable or a least very limited. The competitive element and the danger of strain and over-exertion would make them rather too drastic to be much used in this way by the physician. But there is an exercise that might be classed as athletic, the one nearly always prescribed by physicians, I refer to walking.

As usually taken, a walk does not exercise the muscles vigorously enough to produce very much effect. The skin is not stimulated sufficiently to act as an excretory organ, and the man comes in dull, heavy and tired out, instead of having the bright warm sensation of strength that is felt after a half hour of brisk hard work, followed by a rub down. The great advantage claimed for walking, is the open air ; that is good, but a shorter time given to more vigorous and more evenly distributed work will give better results.

There are three effects of exercise that would commend it as a therapeutic agent.

1st. It relieves congestions by equalizing the circulation.

2nd. It acts as a sedative to the nervous system probably through its action on the circulation.

3rd. It strengthens and enlarges muscles, bones, and ligaments, and would thus apply to all conditions caused by weakness or inequality of developement.

If the education of a child could be begun as suggested by Oliver Wendell Holmes, 100 years before its birth, there would probably be no necessity for the application of exercise in therapeutics and even now its necessity will be greatly lessened by incorporating exercise in our educational systems. By the gymnastic games of the Kindergarten, children are made strong and healthy from an early age and troubles arising from weakness or malnutrition are prevented.

In schools where systematic physical training has gone hand in hand with mental throughout all grades, the marked improv-

ment in the physique of the children is sufficient to commend such training to all who have the welfare of the race at heart. This improvement will not be universal however until there is as much attention paid to the proper breeding and rearing of children, as there is to that of horses and dogs.

The good effect of a course of exercise on even confirmed criminals has been studied by Dr. Wey, of the Elmira Reformatory. He says :—" The stimulation of the physical powers a year ago in the case of three impressed their mental organization to a degree that enabled them to earn their release upon parole, whereas if left to themselves their minds would never have been quickened as a reflex of an improved physical state."

The late Dr. Seguin, by the systematic training of the hand and eye gave understanding to an idiot brain and Dr. Luther Gulick reports three cases in which feeble minded children have been made bright, intelligent and active by a course of special exercises calling into active use the will and attention.

Organic disease of the heart has long been treated by the Swedish movement cure, and Oertal of Munich has established an institution in which diet and exercise are the chief agents used. " The heart being a muscle, should be developed in the usual way ;" if it be weak he advises walking on the level and then hill-climbing. The patient should walk till violent palpitation is brought on. He then is required to stand still till that has abated and until the shortness of breadth is satisfied by voluntary long deep inspirations.

Oertel treats in this way even those who have not sufficient compensation, and repeats the treatment at intervals, according to his judgment. This he couples with baths and a diet rich in albumen, preceding it by a course of Swedish gymnastics and baths. Frantz claims that the ventricles can be more completely and efficiently emptied by exercise than by digitalis, and that the benefit is more lasting.

In cases of infantile paralysis, exercise in conjunction with electricity has given satisfactory results in both increased size and usefulness of the groups of muscles affected.

The importance of movements in the treatment of sprains is

sometimes overlooked. In speaking of this in his book on that subject, Mansell Moullin says: "The sooner movement is begun the better. As a rule passive movement may be commenced from the second day with the certainty of preventing adhesions. I have repeatedly seen the most severe cases treated in this way recover so completely in the course of a few days that unless there is an exceptional amount of walking to be done the patient could follow his ordinary occupation without danger and without pain."

Constipation is most amenable to treatment by movements and exercise. Negative evidence on this point is seen in every hospital ward where the daily notes show complete inactivity of the bowels in nearly every case following rest in bed. May not its frequency in women and those of a sedentary occupation be due to this cause? In no other condition is the power of massage so quickly or so surely seen. Swaying movements and flexions of the trunk are natural forms of massage for the abdomenal contents; even in deep breathing the intermittant pressure of the draphragm and abdominal muscles is a physiological massage.

In chronic dyspepsia exercise is one of the best means of treatment. In one case that came under my notice lately, half an hour, three times a week was quite sufficient to relieve the most distressing symptoms. The patient like many another is accustomed to eat more than he uses and without this work the unused nourishment acts as a burden on the system, and even as a direct poison. The following experiment shows the effect of certain movements on the stomach. With feet fixed, body lying supine raise the trunk upright by contracting the abdominal muscles and the flexors of the thigh. If repeated very often a sensation of nausea will be produced in most people, even to the extent of causing vomiting. If such a powerful effect can be produced by a simple movement repeated often, surely less violent or less prolonged action could be used to obtain a therapeutic effect.

In speaking of obesity and its cure Blaikie remarks, "While the spare man may be benefited by a course of moderate gym-

nastics the corpulent man must," and he cites the case of a man who in five months reduced his weight 90 lbs., from 305 to 215 by exercise alone.

The accumulation of fat in the muscles of the abdominal wall makes them weak, and the tendency to use them as little as possible becomes confirmed.

The burning out of this superabundant fat is best accomplished by the voluntary use of these muscles in movements often repeated and graduated in violence to suit the special case. The loss of weight during muscular exercise is much more considerable than one is apt to realize.

In a two mile race I have known of a man losing nearly two pounds ; quite a difference for ten minutes ; and in a recent prize fight the difference in weight before and after, in one of the contestants, was seven ponnds.

To be most efficient, a dry diet, rich in albumen, should be combined with gymnastic exercise and walking.

From a series of measurements made by Dr. Geo. H. Taylor, it was found that the average expansion in consumptives was about an inch in place of the normal two or three. He claims that the tendency to pulmonary affections is in the inverse ratio to the amount of respiratory power.

In a recent case of my own, an increase of $3\frac{3}{4}$ inches in a man 21 years of age was found after five month's work, and this is by no means exceptional or even above the ordinary. In another case, after special movements, practiced for a month, the increase in expansive power or chest mobility was $1\frac{1}{2}$ inches, while the method of breathing was much improved, and this with an expenditure of half an hour three times a week. Suppose that at each respiration one cubic inch of air were added by proper breathing, the result would be an increase of 15 cubic feet of air used to oxygenate the blood every twenty-four hours. That is well within the mark.

May it not be that in the search for a specific we are overlooking the natural method of controlling pulmonary tuberculosis and that we are unable to understand the language of nature because it is so simple.

In children who have poorly developed chests with hereditary tendencies toward tuberculosis, a course of special exercises would be valuable, conducted somewhat as follows. Take careful measurements of the chest and extremities, strength tests, lung capacity, heart and respiration. With this data in mind, give a course designed to act more particularly on the respiratory system, deep breathing with special exercise for the external respiratory muscles, correct positions in standing, walking and sitting. Repeat the tests every month or two, and at the end of a course, the patient can go back to the physician with the progress shown in black figures, which are worth a dozen opinions.

By carrying on work in this way, facts would accumulate, general rules would shape themselves, and the whole question would be put on a firm scientific basis very different from the disjointed results and inaccurate observations it has had so often in the past.

Wm. A. Edwards advises massage and movement in chorea. He says : If the child be violent it should be held supine upon a mattress for 10 or 15 minutes, while a masseur applies gentle strokings with the palms over the entire body, gradually increasing the time to an hour, repeated every three days. In a short time passive movements, added to overcome tension of antagonistic muscles, and in from eight to ten days voluntary movements, next week gymnastic exercises should be introduced, simple in form, combined with simple voluntary movements of the limbs and trunk. The patient should imitate the movements of the masseur, so as to exercise the will power ; rhythmic movements, timed by music, are of inestimable value for the exercise of the child's will and brain. . . . . The case requires much kindness, persuasion and encouragement. Blache states that of 108 cases of chorea in childhood treated as above, not one relapsed.

Almost every surgeon who has investigated the subject of lateral curvature of the spine, has endeavoured by a theory, differing from that of his predecessors to account for three almost constant facts :—1. Rotation of the vertebræ. 2. Con-

vexity of the dorsal curve to the right, and the lumbar to the left. 3. 90 per cent. of cases are in girls.

Lonsdale, beside mentioning debility and faulty habits of dress, lays great stress on the greater expansion of the right lung and the solid resistance of the underlying liver as being a cause of rotation of the ribs.

Barwell put the blame on the exaggerated use of the right serratus magnus, as well as faulty position and the carrying of weights by the right arm and shoulder. Brodhurst attaches great importance to stays and corsets as a cause. Other causes mentioned are spastic contraction, paralysis of muscles, weight of the heart on the left side, debility etc. All unite however in believing that one of the main causes, apart from those purely mechanical, such as shortening of one leg, old empyema or pleurisy ; is muscular debility, inducing faulty positions of sitting and standing. The causes given are many, but the number of methods of treatment is what Dr. Osler would term "suspiciously large." Division of the erectores spinal muscles, has been practised with disastrous results. Mechanical appliances of all degrees of complexity and rigidity have been designed, forcible extension, recumbancy, the prone position, slings and sloping seats, have had their innings, elastic jackets have been worn, while massage, calesthenics and gymnastics have been used with varying degrees of success.

Before any treatment can be accurately tested certain measurements and tests should be made to give a starting point and enable the surgeon to check off his results. Lateral deviation of the spinous processes at various levels, rotation of the ribs and lumbar vertibrae ; flexibility in rotation should be ascertained.

The difficulties in the way of getting accurate measurements are great, but graphic tracings first described by Dr. Seaver, by means of an adaptation of the pantograph may be obtained which are perhaps more accurate than any means that I have as yet seen designed. By this means cross sections of the body at different levels can be obtained showing the rotation at these levels. Lateral deviation is shown in such a way that a glance will show its amount at any level.

Flexibility in rotation from side to side can be measured by a graduated half circle placed on the sternum registering the amount of lateral twisting to right and left.

By taking these with other set data, and repeating from time to time, progress under any system of treatment could be determined with comparative accuracy.

The treatment would vary with the case, but certain broad lines have been laid down by Bernard Roth, who published in 1885, (British Medical Journal), his results in a series of 200 consecutive cases. The main feature of his treatment is the discarding of all mechanical supports and the strengthening of the spinal muscles by special exercises. He corrects faulty positions in sitting and standing, uses manipulation and duplicate movements in the corrected position with free gymnastics daily, all directed to equalize the developement of the spinal muscles and improve the general muscular system. Under this treatment the general health is found to improve, pain ceases, and the maximum of improvement possible is attained in from three to six months of daily treatment, lasting about three quarters of an hour, followed by rest supine of ten minutes.

This course of treatment is followed by a home prescription to be taken for a year to ensure permanence of the improvement, He says :—"The conscientious carrying out of this treatment for about one hour daily will enable surgeons to cure or improve the vast majority of cases of lateral curvature of the spine on an average in three months from the commencement of the treatment."

The object of this paper is merely to indicate in outline as briefly as possible the place that exercise should occupy in medicine. In doing so, many things, important perhaps, have had to be left out or barely noticed In a paper of this length which has to cover such an enormous field, one can but touch upon, without dipping into, a few of the most important principles.

These notes are like a skeleton which the hearer must clothe for himself, with its sinews, muscles, nerves, and vessels, and skin, before he can appreciate the fulness of its outlines. If I have succeeded in stimulating an interest in this department of medicine, too often left to the ignorant empiricist, the quack and professional rubber, I shall feel that I have my reward.

SALINE ENEMATA IN HÆMORRHAGE.*

By John A. Hutchinson, M.D., Cote St. Antoine, P.Q.

I wish here to refer to a case of severe post-partum hæmorrhage occurring in practice a short time ago, which illustrates the beneficial effects of saline enemata.

I was called late one night to see Mrs. S., who had an abortion at the second month, and had bled profusely for several hours. On examination she was found to be much collapsed, and presented the appearance of one near death from loss of blood. She was very blanched and anæmic, with a pulse of 140, weak and thready, sighing respiration and partially unconscious. The bleeding had stopped, but there was danger of death unless something was done to aid the circulation.

It seemed a favourable case for transfusion, and I spoke to Dr. Roddick with a view to having this done. He advised, before doing this, to try saline enemata. This I did and used the same solution as is now used for transfusion into a vein or artery, that is,

Sodium chloride grs. xcii.
Liquor soda m $\overline{xx}$
Aqua O ii

Half of this solution was injected and well retained, and in two hours after the other pint was given and retained.

The temperature of the solution was 98°F.

The hips were raised to allow the fluid to gravitate up the bowels.

A marked improvement resulted, both in pulse and respiration. A slight rigor ensued, followed by rise of temperature. Since that time the patient has made a good recovery.

The advantage of this treatment over transfusion is very apparent in the fact that it can be done at once, as the solution is easily obtained, and also easily administered, while there is some danger in transfusion, particularly as air may get into the vein or artery. Again it requires some training in manipulation that the every day practitioner may not have, and the necessary instruments are not always at hand when wanted.

* Read before the Montreal Medico-Chirurgical Society, November 3rd, 1893.

Since this case occurred, I find in the British Med. Journal of the 14th of October, that Warman reports the treating of 28 cases of post-partum hæmorrhage in this way. In his cases he only uses a teaspoonful of salt to a quart of water, and at the temperature of the room, which he thinks causes it to have a more rapid effect than at a higher temperature.

He also states that the saline solution has marked hæmostatic properties, and recommends its use in all hæmorrhages except those from intestines.

I have reported this case because I think that in emergencies of this kind, this treatment has not received the attention its importance demands. Most cases are treated by stimulants and nourishment, if transfusion is not done, but by the absorption of this saline in the bowel, the blood vessels are quickly supplied with a solution that certainly takes the place of the ost blood at a critical time for the patient.

NOTES ON BAZIN'S DISEASE.

By Rankine Dawson, M.D.

Many years ago (1861) Mr. Bazin described, under the name of *Erythème induré des Scrofuleux*, an affection resembling in its early stages erythema nodosum, from which, however, it differs in several essential particulars. Mr. Bazin says :—" Erythema induratum of a scrofulous nature is not a rare affection ; it is characterized by red, indurated patches, the redness disappearing momentarily under pressure. There is no itching, and pressure causes little or no pain. This affection is observed usually upon the legs, more often in girls than in boys." Bazin does not, however, appear to have followed up the cases from which his description is taken, nor does he seem to have recognized the ulcers which frequently result from these indolent, deep-seated nodules, as being a characteristic phase of this malady. During recent years this affection has attracted a good deal of attention amongst dermatologists, both in Paris and London ; numerous cases have been reported, and a more definite and accurate conception of the affection obtained.

In the past, the indurated nodules, as well as the resulting ulcers, have almost always been taken for syphilitic lesions, which they very closely resemble, false and injurious inferences as to past history or inheritance have been drawn, and prolonged courses of treatment undertaken quite unnecessarily. It is evidently important, then, that the existence of this affection should be widely known, and that it should be borne in mind when cases of multiple ulceration of the legs, especially in young people, having the clinical appearances of syphilis, present themselves for diagnosis and treatment.

Referring to this point, Dr. Calcott Fox, in a paper read before the British Medical Association at its recent meeting, said :—"The distinction from syphilitic gummata is certainly very difficult, and it is only by observation of the case, and consideration of all the circumstances, that a correct opinion can be formed. The persistence of individual lesions, the prolonged course of the affection as a whole, the number of the lesions, the frequency in young girls, and the bilateral localization on the legs, are the chief points against syphilis."

As already mentioned, the disease resembles erythema nodosum, but may be diagnosed from it by keeping in view the following points of difference :—(1) The tendency the lesions have to ulcerate. This is not the case in erythema nodosum. (2) The position of the lesions, which are generally on the posterior aspect of the leg, over the gastrocnemius muscle. (3) The lesions themselves are more circumscribed, firmer, and of a somewhat different colour. (4) There are no constitutional symptoms and no local tenderness.

To what extent it is necessary to differentiate this affection from scrofulo-tuberculous gummata is at present uncertain. As Bazin's name implies, it is no doubt closely allied to tubercular troubles of other kinds, and will probably come to be classed as one more clinical form of the great group of affections for which the tubercle bacillus is directly or indirectly responsible.

As regards treatment, Mr. Hutchinson says :—"In my early cases I tried many different methods of treatment, and laid par-

ticular stress on confinement to a recumbent position. I have found, however, that the latter measure is by no means always needful, and I have recently cured several cases while allowing the patient to walk about. An ointment containing four or five grains of bisulphuret of mercury to the ounce is, according to my experience, almost a specific, and exceeds in value all other measures." Others who have had this disease to treat recommend rest, pressure by means of firm bandaging, combined with tonics and cod liver oil. As a rule, the affection is a very indolent one, and may continue for months without apparent improvement, in spite of any treatment adopted.

ONE HUNDRED CASES IN THE CORONER'S COURT OF MONTREAL, 1893.

By Wyatt Johnston, M.D., Montreal.

(*Continued.*)

III.—Death from Injuries (40 Cases).

Death was due to homicide in 1 case, to suicide in 3 cases, and to accidents in 36 cases.

The injuries were caused as follows :—

Homicide by blow, 1 ; railway accidents, 10 ; street railway accidents, 2 ; runaway horse, 2 ; toboggan, 1 ; other vehicles, 1 ; elevator accidents, 3 ; machinery accident, 1 ; falling bodies, 5 ; falls from a height, 2 ; firearms, 3 ; explosion, 1 ; burns, 4 ; asphyxia by food, 1 ; hæmorrhage from umbilical cord, 1 ; surgical operation, 1 ; hanging, 1. Total, 40.

The causes of death were :—

Fracture of skull (alone, or associated with multiple injuries) 14 ; penetrating wound of brain, 1 ; dislocation of neck, 3 ; gunshot wound of head, 2 ; gunshot wound of neck, 1 ; crush of chest, 2 ; rupture of abdominal organs, 2 ; peritonitis, 1 ; umbilical hæmorrhage, 1 ; asphyxia, 2 ; burns, 4 ; concussion, shock and doubtful causes, 5.

Fracture of Skull (14 Cases).

Case 7. C. S., aged 22, brakeman, was missing after train had passed through Victoria Bridge, Feb. 6, 1893. The body was found just at the entrance to the bridge.

External Examination.—Both legs lacerated and crushed, being nearly detached from body. Body and arms uninjured. Thin, reddish, bloody fluid oozing from right ear. Laceration of scalp in right posterior region, beneath beneath which mobility and crepitus of the parietal bone can be felt. Tissues about left orbit ecchymosed.

Verdict—Accidental death.

Apparently the blow on the left side of the face caused him to lose his balance and fall between the cars, the skull being fractured in striking the floor of the bridge, and the wheels passing over the legs.

CASE 12.—*Tobogganing Accident—Fracture of the Base.*—J. C., a girl aged 16, thrown violently against a telegraph pole on Côte des Neiges Hill, Feb. 11, 1893.

External Examination.—Bloody fluid oozing from nose and right ear. Marked cutis anserina. No crepitation can be felt in cranial bones. Slight prominence of second curvical vertebræ, with increased mobility of neck. No dislocation made out. Diffuse ecchymosis over right mastoid region.

Verdict—Accidental death.

In this case death was stated to have been instantaneous, which is rare in fractures of the base of the skull.

CASE 15.—*Elevator Accident.*—J. C. B., male, aged 59. Head caught between elevator and wall of shaft, March 1st, 1893. Fell downwards into lower compartment of elevator, where the body was found.

External Examination.—Blood stains about head and hands; clothing blood-stained. In right temporal region extensive ecchymosis; an extensive depressed fracture felt at junction of right frontal and temporal bones. In the occipital region a large (4″ diameter) triangular flap of the scalp is torn nearly off, being attached by its apex only. Left thumb nearly torn from the hand.

Verdict—Accidental death.

Being asked in what precise phases of the accident the various injuries were received, I had to decline to make any positive statement from external examination only.

CASE 70.—*Fracture of Skull—Dural Hæmorrhage—Electric Shock* (?).—A. B., aged 40. Motor-man on Montreal Street Railway. While climbing to the roof of a standing trolley car to make some repairs, was seen to let go his hold and fall backwards, striking his head on the ground. Went home and told his wife that he had received an electric shock, which caused him to let go. Soon afterwards became comatose, and died within 24 hours of the accident.

Autopsy 40 hours after death, July 3, 1893. Body a good deal decomposed. Veins of skin form distinct blue-black lines, especially in the upper part of body. Tissues about neck, crepitant. In right occipital

region two parchmented areas of skin, each ½in. diameter, with hæmorrhages on the surface. No other external marks of violence. No appearance resembling a burn.

Head—Extensive ecchymosis beneath the scalp in occipital region, extending down towards the neck. The extravasated blood is completely coagulated.

Extending directly downwards from a point one inch below the left half of the lambdoidal suture to the *foramen magnum* is a fracture involving both tables of the occipital bone. Near the lower end of the fracture, a branch fracture, confined to the inner table, but splintering it in places, extends to the petrous bone on the right side. The broken edges of the bone are covered with blood.

Between the dura and the occipital bone, on the left side, is a solid dark blood clot as large as a hen's egg, the origin of which is seen to be a laceration in the posterior wall of the left lateral sinus. A blood clot the size of a walnut lies external to the pia on the inferior surface of the left lobe of the cerebellum. A little soft clot and fluid blood is seen over the base of the brain, extending anteriorly to the optic chiasm. There is superficial laceration of the under surface of both orbital lobes, with numerous hæmorrhagic points. Brain substance elsewhere normal. Ventricles of brain free from blood. No blood in 4th ventricle. Vessels not atheromatous.

Blood in heart chiefly fluid *but coagulated upon exposure.* Organs appear healthy and free from ecchymosis.

Verdict—Accidental death.

In this case the medico-legal question to be determined was whether the fall was caused by an electric shock. I stated that there was no evidence of a burn such as would result from contact with a "live" wire of high voltage, and that if a slight shock received from some part of the car had caused the fall, there was no post-mortem evidence of it.

Case 59. *Homicide from Effects of a Blow—Fracture of Bone—Meningitis.*. J. H., a boy aged 16, was stated to be struck on the head by another boy with a lacrosse stick; fell over and became unconscious, with oozing of serum from the right ear. Symptoms of meningitis set in on the seventh day, and death occurred ten days after the injury.

Autopsy, made jointly with Dr. George Villeneuve, 32 hours after death, on June 19th, 1893.

Incision made by undertakers for injecting the body: in the right brachial artery and in peritoneum.

No external evidences of contusion or other injury about the head. A yellowish dried crust in right auditory meatus. A few small ecchymoses of the skin over right thigh, left knee and right iliac crest.

On removing scalp, a narrow line of ecchymosis extends for 4 inches horizontally along the lower border of the right parietal bone, averaging ½ inch in width, and situated in the subcutaneous tissue, immediately

beneath the skin. No evidences of decolorization of the extravasated blood. A line of fracture extends downwards from the upper edge of the right squamo-temporal bone into the glenoid fossa.

Beneath the subcutaneous ecchymosis is a reddish area ½ inch in diameter lying in the bone near the coronal sutnre. On removing the skull cap and brain this is seen to correspond to a straight linear fracture ¾in. long, near which is a curved fracture 1 inch long, both confined to the inner table of the right parietal bone. At this point there is a circumscribed spot of ecchymosis outside the dura. The thickness of the fractured bone averages from 3 to 5 mm. The fracture of the temporal bone is seen to extend across the petrous bone into the basi-sphenoid.

The pia is opaque and yellowish, with abundant sticky lymph over the base and convolutions. This exudation is most abundant on the left side, especially near the left Casserian ganglion, where it is distinctly purulent. The subjacent bone and nasal cavities are normal.

No suppuration in either tympanic cavity. Microscopic examination of the arteries of the pia shows an intense cellular arteritis. No appearance of tubercles.

Beyond the styptic effects of the chloride of zinc embalming fluid, the other organs were normal.

Conclusions.—From the condition found at the autopsy, in spite of some peculiarities in the lesions found, there seems to be no reasonable doubt that death has been due to a meningitis which has resulted from a blow upon the right side of the head, fracturing the skull.

The case was presented before the grand jury, who found a No Bill.

An interesting point was the fact that the meningitis was most severe on the side opposite the fracture, and that it arose without any intervening suppuration of the middle ear.

Upon being questioned as to whether the injury was the result directly of the blow or of the fall which followed it, we were inclined to consider the linear ecchymosis beneath the scalp, with a distinct fracture and ecchymosis of the dura lying directly beneath it, sufficient evidence that the fracture showed the effects of a blow from a narrow, smooth instrument. There are probably few more difficult points arising in coroners' cases than are involved in deciding whether fractures are due to the effects of a blow or a fall when both are shown to have taken place, as almost any form of fracture of the skull may result from a fall.

The absence of any signs of decolorization in the ecchymoses, presumably produced ten days previously, was also confusing.

Finally, the injection of the body, officiously made by the undertaker, further tended to complicate matters.

The clinical history of the case was kindly furnished by Dr. J. M. Elder.

CASE 48.—*Fracture of the Skull and Body of 11th Dorsal Vertebra, without external signs.*—D. M., sailor, aged 23, fell 18 feet into the hold of a ship, striking the head upon some iron rails. Was removed immediately, but was found to be breathing his last.

External Examination.—Whitish foam about nostrils. Skin of nose lacerated and left nasal bone broken; a lacerated and contused wound in R. parietal region.

Internal Examination.—In right parietal region the subcutaneous tissue of the scalp and the pericranium are extensively ecchymosed, the extravasated blood extending behind the right ear down the sheath of the right sterno-mastoid.

A line of fracture extends downwards along the posterior border of the right parietal bone, and through the occipital bone to the *foramen magnum*, and a branch fracture extends through the mastoid and petrous bone into the sphenoidal fissure.

Beneath the pia an extensive diffused hæmorrhage fills the sulci over the right parietal region, the inner surface of the right hemisphere, the lower surface of the left temporal lobe, and the upper surface of the cerebellum. Punctate hæmorrhages are seen in the ganglia at the base.

Heart normal. Lungs crepitant; intensely congested, with small hæmorrhagic foci scattered through their substances. Numerous small emphysematous bubbles beneath the pleuræ. Bronchi filled with fine reddish froth. A large area of hæmorrhage behind the aorta just above the diaphragm on the right side, extending behind the pleura. The body of the 11th vertebra is seen to be fractured, and at this point there is hæmorrhage into the spinal canal, but the cord is apparently neither lacerated nor compressed.

Spleen large and soft; weighs 300 grammes. Other organs normal.

An interesting point in this case was that the only injuries detected, on external examination, were the injury to the nose and the laceration of the scalp. No signs of the fracture of the vertebra or skull could be made out externally.

The condition of the spleen possibly explained the fact that the man walked in a remarkably stupid manner into the hatchway, although there was a plank across it, by suggesting that he may have been in the early stage of some acute febrile disorder.

Fracture of Skull with Multiple Crushing Injuries.

J. T. and L. L., workmen employed in tearing down the walls of a building destroyed by fire, were killed by a wall falling upon them.

External Examination Feb. 7, 1893, 4 hours after death, which was nearly instantaneous.

CASE 8.—J. T.—A little clotted blood about nostrils. The skull felt to be extensively shattered, so that the head can be moulded into any desired shape. The superior maxilla felt to be fractured on both sides. Chest flattened on left side and crepitus felt over 7th, 8th and 9th ribs in left axillary region.

Comminuted fracture of left humerus in upper third; dislocation of left shoulder, with separation of coracoid process. Extensive laceration of left thigh on anterior surface from Poupart's ligament nearly to knee. Compound fracture of left femur, tibia and fibula. Luxation of right knee.

Verdict—Accidental death.

CASE 9.—L. L.—Blood oozing from ears. A depressed comminuted fracture of the left parietal bone near the vertex, with laceration of the scalp. Fracture of right superior maxilla and nasal bones. Fracture of right radius in middle third.

Verdict—Accidental death.

An interesting point in connection with cases 9 and 48 was that the nasal bones were fractured, an injury often absent in the ordinary "broken nose."

CASE 20.—M. O., aged 25, killed by falling of a derrick at the Wellington Street bridge, March 25th, 1893.

External Examination.—Extensive comminuted fracture of skull, extending over the vertex from the level of coronal suture to occipital prominence, and laterally to lower border of parietal bones. Blood oozing from nose and R. ear. Fracture of R. tibia in lower third, and of R. fibula in upper third.

Verdict—Accidental death.

CASE 21.—P. G., aged 37, killed by same accident. Numerous subcutaneous ecchymoses on side of trunk, right arm and right leg. Serous bloody fluid about nose and both ears. Right side of chest flattened, and crepitus is felt in right axillary region from the level of third rib downwards. Fracture of right thigh in lower third, and compound fracture of left tibia and fibula in upper third.

Verdict—Accidental death.

CASE 75.—*Crush of Head and Chest.*—A. B., employé of Royal Electric Co. Body was found extensively lacerated, having apparently been entangled in the machinery. No witness to accident.

External Examination, July 12th, 1893. Scratches about hands, from which hæmorrhage has taken place. Comminuted fracture felt in occipital region. Blood oozing from both ears.

A jagged, lacerated wound extends from mid sternum over left shoulder down to the left infra scapular region, severing the four upper left costal cartilages and the clavicle from the sternum. The left subclavian artery and veins are divided, and the left pleura and pericardium

torn open, leaving the breast exposed. Cavities of heart moderately full.

Verdict—Accidental death.

As bleeding had occurred from the scratches on the hands, it seemed as if those injuries had possibly been produced before the others. The nature of the force which cut open the thorax from above suggested a rapidly revolving belt, but no positive statement can be made on that point.

CASE 78.—*Fracture of Skull and Multiple Crushing Injuries.*—J. W., pedlar, killed while crossing the railway track, by a passing express train.

External Examination, July 14, 1893. Lacerated scalp wound about 3 inches in length, extending upward and backward from above left ear. Comminuted fracture of skull felt in occipital region. Fracture of ribs in left lower axillary region, and fracture of left side of pelvis. Fracture of left upper arm and right ankle.

Verdict—Accidental death.

CASE 33.—Margaret M., killed by descent of an elevator while she was gazing into the shaft, May 9, 1893.

External Examination.—Head almost decapitated, being attached merely by a strip of skin at occiput. Dislocation and crushing of cervical vertebræ. Cervical vessels severed. Bruising and excoriation of skin about upper part of sternum.

Verdict—Accidental death.

CASE 23.—F. S., aged 63, female. Knocked down and trampled on by a runaway horse.

External Examination.—Bleeding from ears, nose, and mouth. Bones of face crushed. Upper part of skull freely movable on the base.

Verdict—Accidental death.

CASE 45.—*Railway Injuries giving rise to suspicion of Homicide by Blows—Autopsy.*—P. L., aged 30, a lineman employed by the Bell Telephone Company, left his home to string some wires in the country. Two days later his dead body was sent to his relations with injunctions "not to open the coffin, as the corpse was so horribly mangled by a railway accident as to be scarcely recognizable as that of a human being." The friends learning that the watch had been found on the railway track, ten miles from the spot where the body was found, suspected foul play, and upon opening the coffin found no signs of injury to the body except a severe wound at the back of the head. An inquest was accordingly demanded.

Autopsy made jointly by Dr. George Villeneuve and myself on June 1st, 1893.

External Examination.—The body was considerably decomposed. The clothing was smeared with blood, but not much torn or disarranged. The right external ear filled with clotted blood. A lacerated scalp

wound extended from the right frontal eminence to behind the right ear. The bones of the skull were exposed, and showed a small smear of black grease. A vertical scalp wound 1 inch long was found in the left parietal region. The bones of the skull could be felt to be crushed in, and were movable on palpation.

Abrasions were found on the right forehead, chin, right cheek, right upper arm and fore arm, left thigh, left patella, left popliteal region and left shin. These were free from ecchymosis.

Several contused areas of ecchymosis were found about the fingers of the left hand.

Internal Examination.—A very extensive fracture of the skull was found in the right temporo-parietal region, the bones being shattered into fragments not larger than 2″ in diameter for an area of over a hand's breadth. The sagittal, coronal and lambdoidal sutures were separated. A line of fracture extended downwards to the left jugular fossa from the left extremity of the lambdoid suture. From the right mastoid region a fracture extended downwards across the right petrous bone and basi-sphenoid to the left sphenoidal fissure. A third line of fracture extended down from the junction of the right coronal and sagittal sutures across the right orbital plate to the sella turcica.

The brain cortex was much lacerated in the right parietal region and about the posterior limb of the sylvian fissure, the right supra marginal and upper temporal convolutions being most injured. Corresponding to this region, the dura was torn. No appearance of severe hæmorrhage at this point. The rest of the brain appeared normal.

In pericardium several ounces of dark fluid blood. Near the tip of the auricular appendix was a ragged laceration ½ an inch long. The heart was otherwise normal. Lungs normal. Larynx and organs of neck normal.

Spleen normal. Half a pint of fluid blood in peritoneum. About the right kidney an extensive extravasation of blood behind the peritoneum. Substance of kidney lacerated near the hilus. (This condition was apparently due to a fracture of the lumbar vertebræ.) Left kidney intact.

Liver presents five lacerations running parallel along the upper surface of the right lobe.

Stomach and intestines showed no signs of injury.

Conclusions.—The appearance of the lesions correspond with a railway injury, but not with homicide by blows.

Subsequently evidence was obtained that the deceased had been seen to be struck by a passing train. The extent of the internal abdominal injuries was very striking, and accounted for the absence of severe hæmorrhage from the wound of the head. The presence of ecchymosis about the contusions of the left hand showed that they must have been produced prior to the other injuries, but no evidence was forthcoming as to how this had happened.

Fracture of Skull—Penetrating Wound of the Brain.

Case 10.—J. H., aged 35, stoker in gas works, killed from effects of the explosion of a receiver.

External Examination, Feb. 8th, 1893. Clothing dusty, not torn or burnt. Skull felt to be fractured near the posterior extremity of the sagittal suture. Fragments movable and give crepitus. In right temporal region, 1½ inch above and 1 inch anterior to external auditory meatus, is a deep lacerated wound 1 inch in length, leading directly to a jagged opening in the temporal bone large enough to admit the little finger. No foreign body near the orifice of the wound. The brain substance is seen to be lacerated. A little clotted blood in the nostrils.

Conclusions.—The injuries appear sufficient to explain the death. Their exact nature cannot be made out without an autopsy.

Verdict—Accidental death.

Other Injuries from Crushing (4 Cases).

Case 22.—*Rupture of Liver.—Peritonitis.*—J. B. V., aged 30, when riding on top of a load of compressed hay, was squeezed between the load and the roof of an archway in the Shedden stables. Died in Notre Dame hospital 4 days later with symptoms of septic peritonitis.

Autopsy on March 27th, 1893, 30 hours after death. Abdomen swollen and dark-coloured. No external signs of injury.

In peritoneal cavity three pints of dark, slightly fœtid, bloody fluid. In places slight roughening of the peritoneum from recent lymph. In hypochondria greenish brown staining, apparently from bile pigment. *Liver*—An irregular, wedge-shaped line of rupture extends 3 inches backward from the anterior edge of the right lobe, just to the left of the gall bladder. The edges of the wound are rounded and retracted, and covered with fibrinous exudation. On making sections across the line of rupture a wedge-shaped area of hæmorrhage is seen to penetrate the liver substance almost to the posterior border. In the centre of this, posterior to the rupture is a pale anæmic, wedge-shaped area corresponding to which is a grayish thrombus occluding a large branch of the portal vein, and loosely attached to the intima. Liver substance looks normal.

Gall bladder contains a tablespoonful of clear grayish mucus. Common gall and cystic ducts intact and pervious. Intestines contain grayish fæces apparently free from bile.

Kidneys show slight parenchymatous swelling, affecting chiefly the colums of Bertini. Other organs normal.

Unfortunately this specimen could not be obtained for further study, but evidently the presence of bile in the peritoneum, and its absence from the intestine without any injury to the common or cystic ducts, pointed to a laceration of one of the larger hepatic ducts. The complete absence of external bruises is not at all uncommon in injuries of abdominal viscera. The verdict was "*accidental death.*"

CASE 99.—*Extensive General Crushing and Laceration.*—A. B., aged 20, brakesman, fell between cars and was run over by two trains.

External Examination made August 17, 1893. The head and right arm have been completely severed from the the trunk. The left upper arm is broken in several places. A large area of parchmentation occupies the right side of the chest and abdomen. A transverse lacerated wound penetrating skin and cellular tissue above each knee. The lungs and heart are exposed by the laceration in upper part of thorax.

Verdict—Accidental death.

CASE 89.—*Extensive Crush of Chest and Abdomen.*—M. D., aged 25, was run over by a train near St. Henri, while walking on the track. Death was instantaneous.

External Examination made August 3rd, 1893, 20 hours after death. Body in state of marked and advanced decomposition, attracting swarms of flies. Rigor mortis in smaller joints. Chest and abdomen greenish. Chest completely crushed in; all the ribs apparently being fractured. Multiple fractures of both legs and arms. A few cuts and scratches about face and head.

Verdict—Accidental death.

In this case the unusually early and rapid decomposition was doubtless due to rupture of the intestines and escape of their contents.

CASE 36.—*Crush of Chest.*—H. T. A., aged 35, struck by an engine near Montreal Junction. Apparently paid no attention to repeated whistles blown.

External Examination, May 22, 1893. Right side of thorax depressed in the axillary and infra-scapular regions. The tissues in this region felt to be emphysematous. The ribs from the 5th to 8th are felt to be fractured just anterior to their angles. An area of ecchymosis, 3″ in diameter, in the right flank. Several deep scratches on forehead and nose.

Verdict—Accidental death.

Owing to the question being raised of the man being deaf, I examined the tympanum by means of a speculum and mirror, while making the external examination. There was no perforation, but the drum looked dull, livid, and had very much the appearance met with in chronic catarrhal otitis media. On examining, for the purpose of control, the drums of two other bodies lying at the same time in the mortuary (both patients had been treated in hospital and were stated not to be deaf) the same dull and sunken appearance of the drum was noted, so that it appeared to be merely a post-mortem change.

Dislocation of Neck and Fracture of Cervical Vertebræ (3 Cases).

Case 5.—J. V., while driving in a sleigh across a railway track, was struck by the tender of an engine running backwards at the rate of 35 miles an hour. The body was thrown a distance of about 30 feet. Death occurred in a few moments.

External Examination, Feb. 1st, 1893. On moving the head, undue mobility and crepitation felt in upper cervical region, about level of 3rd cervical vertebra. Fracture of left thigh. No other injuries.

Verdict—Accidental death.

Case 6.—A. B., female, killed in same accident, body being thrown a distance of 25 feet. Blood oozing from nostrils. A scalp wound 3" long in left parietal region. On moving and rotating head, great mobility with crepitus made out at the level of the 4th cervical vertebra.

Compound comminuted fracture of right leg.

Verdict—Accidental death.

Case 71.—H. M., male, aged 84. Fell off a load of hay and was picked up dead. No external marks of violence.

Great lateral mobility with distinct crepitus felt in upper part of the neck.

Verdict—Accidental death.

In localities where the crowning glory of an inquest lies in the avoidance of an autopsy, the unfortunate medical witness is so often at a loss to account satisfactorily for the death, that it becomes a source of great comfort when he meets with an injury demonstrable by external examination and necessarily fatal. The three cases of this nature occurring in this series of one hundred were, on this account, highly appreciated, though of little general interest.

It would add to the accuracy of coroners' verdicts, and conduce to the economical working of coroners' courts, if this easily recognized and painless mode of death were more generally utilized by the subjects of coroners' inquests.

Injuries by Firearms (3 Cases).

Case 92.—*Revolver Wound of Left Side of Head.—Suicide.—Sclerotic Changes in Brain.*—J. A., aged 60, was involved in some business troubles; also complained of pains at the back of the head for some months past. Was noticed by his family to be altered in character, and to have lost his memory. Latterly he kept on repeating the same thing over and over. He was found dead in his office on the morning of August 9th, 1893, with a 38-calibre revolver lying close beside him.

Autopsy, made about 12 hours after death.—Body of a well-nourished, elderly man. Fully dressed. Nothing about body or clothing to indicate a struggle.

On the left side of the head, 1 inch above the external auditory meatus, is a ragged, lacerated wound, 1 inch in diameter. The deeper parts of the wound are blackened, but there is no powder tatooing, blackening, or burning of the hair or skin near the wound.

On the right side of the head, 2 inches above the meatus, is a ragged, lacerated wound, 1½ inches in diameter, free from blackening or powder grains.

Both the wounds communicate directly with the brain. A quantity of clotted blood is seen about the clothing near the neck. The hair is matted with dried blood.

The vault of the cranium can be felt on palpation to be extensively shattered. Extensive ecchymosis about the left orbit. Conjunctivæ clear.

On removing scalp, extensive ecchymosis is seen beneath. The skull-cap can be almost entirely removed without the aid of a saw, as a complete line of fracture crosses the frontal bone and runs back across the temporal bone as far as the occiput on the left side and the mastoid on the right, leaving only a narrow bridge of bone to be sawn through.

Besides this circular line of fracture is a line extending up from it in front and passing along parallel to the sagittal suture. A fracture also branches downwards on each side into the temporal fossa. There is much comminution of the bones near the wounds in the front-parietal region. A fracture extends across the base of the skull through the left orbital plate and right petrous bone. Dura mater extensively lacerated in both parietal regions. The falx perforated in lower part.

Brain substance shattered and lacerated throughout the central portion of both hemispheres, and shows extensive haemorrhage, the origin of which cannot be traced to any one point. The lacerated brain substance contains powder grains. No trace of the bullet found.

Corpus callosum and floor of the lateral ventricles extensively lacerated. Fourth ventricle filled with blood clot. Patches of sclerosis detected in the more intact portions of the white substance of the hemispheres. Anterior part of brain not specially involved in this sclerotic change. Pia not excessively thickened, and strips with ease from convolutions. White matter of upper cervical cord shows translucent gray appearance; under microscope shows areas of sclerosis in posterior and lateral columns.

Spinal dura intact. Heart and lungs normal. Spleen and kidneys normal. Bladder contains 8 oz. of clear, pale urine. Intestines normal. Stomach contains a cupful of half-digested food. Mucosa normal. Liver normal. Mouth contains a little clotted blood. Some bloody froth in larynx.

The capsule of right shoulder joint thickened, and the synovial fluid in excess. Cartilage of head of right humerus softened and slightly-eroded and rough near the margin. Right elbow and wrist joints normal. Left shoulder joint normal.

The condition of the right shoulder joint is of interest in accounting for a wound evidently made from the left side, although the deceased was a right-handed man. It was shown by the evidence that he had sprained his right arm some months before, and since then had not been able to use it freely.

The sclerotic changes in the brain and spinal cord were of interest as evidence of actual nervous disorder, though not those commonly found in cases of suicidal mania.

The verdict rendered was "*Suicide while insane.*"

CASE 58.—L. P., aged 30, was stated to have committed suicide by discharging a shotgun into the right side of his head, on June 17th, 1893.

External Examination.—Clotted blood mixed with disintegrated brain matter over the right shoulder and right side of head. A large lacerated wound 1½ inches in diameter involves the anterior half of the right ear and the adjacent skin of the cheek, and from it brain tissue protrudes. The edges of the wound are blackened, and a sooty-looking zone extends for 2 inches about the periphery. Hair about right ear singed. The whole region of the petrous bone appears shattered. The floor of the auditory meatus is intact. No wad or shot found. The bones of the skull can be felt to be fractured in many places, and the head can be moulded in any desired shape. On opening the mouth, superior maxilla and hard palate felt to be fractured on the right side. On the right forearm a sooty mark extends across the radial side, 3 inches above the wrist, the skin being scorched and the hairs singed.

The medical point of chief interest in this case was the line of powder smut across the radial surface of the right wrist, at a point where the skin would have been directly over the vent of the breech-loading shotgun used, had the deceased reached along the barrel to pull the trigger, after placing the muzzle against his head, as he was stated to have done by the chief witness at the inquest, who was present at the time of the suicide.

Verdict, "*Suicide while insane.*"

CASE 90.—J. P., aged 20, accidentally shot in the neck by an intoxicated friend with a shotgun, at 10 feet. Died almost instantly.

External Examination, August 5th, 1893.—Clothing about neck smeared with blood. In anterior region of neck, at level of larynx, is a large, deep, lacerated wound. The edges of the wound are inverted, and show powder tatooing and blackening for a distance of 1 inch from the wound. The wound is 1¾ inches in diameter, and the larynx and trachea are torn open and seen to be filled with bloody froth. No isolated shot holes.

Situated $3\frac{3}{4}$ inches distant from this wound, in a straight line, is a smaller ragged wound in the posterior part of the neck, in the right side, at the same level as the anterior wound. A fragment of muscle tissue protrudes posteriorly, and 3 grains of No. 4 shot were extracted.

The cervical vertebræ cannot be ascertained by palpation to be injured.

No other marks of violence.

Conclusions.—The body shows a severe shotgun wound, fired at a distance not exceeding a few feet from a point in front and slightly to the left. The exact nature and extent of the injuries cannot be determined without an autopsy.

Verdict.—"*Excusable homicide.*"

Peritonitis following Surgical Operations.

D. P., aged 30, consented to have exploratory laparotomy for gall stone performed, after being warned of a possibly fatal result, which followed a few days after the operation. The body showed no signs of jaundice. The abdomen much distended and tympanitic.

The suspicions of the friends had been aroused by certain incidents in the case, which, on inquiry, appeared to be innocent enough. There was no accusation of negligence and therefore, as the performance of the operation in the presence of four legally qualified practitioners showed it not to be of the nature of an unlawful act, the friends withdrew their demand for an inquest.

This case shows the advantage of preliminary medical inquiry in averting a groundless charge of malpractice.

In the event of any case of this kind requiring inquest, it might be well to employ a special jury, half being composed of medical men, to investigate the case. This practice has been followed in New York with excellent results.

Umbilical Hæmorrhage. (?)

Case 25.—*Autopsy* upon the body of a new-born infant found at St. Louis de Mile End, April 9th, 1893. Body of a female.

Length, 13 inches. No signs of violence. A little vernix present in the armpits and groins. The umbilical cord has been encircled with a piece of knitting wool, tied in a loose knot, but too loosely to compress it. The ligature can be readily slipped off without untying it. The cord appears to have been cut. The umbilical vein and arteries contain a little soft clot. Large intestines filled with meconium. Stomach contains air, but no traces of food. Small intestines empty, and sink in water. The lungs light pink; are fully distended; float as a whole, and also when cut in pieces, except at the base. Portions compressed between boards still float. They are anæmic. The heart is flabby and collapsed, and its cavities practically empty of blood. Fœtal orifices persist. Spleen, kidneys, liver and brain are all intensely anæmic and almost bloodless. Ossification in sternum and astragulus; none in lower epiphysis of femur.

Conclusions.—The body is that of a fœtus at about the seventh month. Death has apparently been due to hæmorrhage from the umbilical cord. There are no signs of violence. The child has breathed.

Verdict—Accidental death.

The conclusion as to the cause of death seemed justified by the intensely anæmic condition of all the organs.

Death by Asphyxia (2 Cases).

Suicide by Hanging.—M. S., aged 40, male. Had made several attempts to commit suicide. Was sent for an ocean voyage in charge of an attendant. Exhibited symptoms of mania and was very despondent. Was constantly picking at and scratching himself. While entering the port of Montreal escaped from his attendant and entered a water-closet, where he succeeded in hanging himself upon a hook by means of a line made by his braces, a necktie and a piece of marline. Upon breaking open the door a few minutes later, he was found to be dead.

External Examination, June 27, 1893. Body of a heavy, muscular man. On the head, left hand, left shin, sacrum and left hip are dried blood crusts, some of which have been detached, leaving a slight scar. Conjunctivæ pale; not ecchymosed. Passing under the chin, just over the thyroid cartilage, and terminating in the hair over the occiput, is a narrow livid groove 3 mm. in diameter bordered by an ecchymotic zone. Viscid greyish fluid exudes from meatus urethræ on pressure.

Verdict—Suicide by hanging, while insane.

Asphyxia by Food.—G. M., aged 25. Found dead in bed. Supposed to have committed suicide, being out of work. The body was stated to have been found lying half out of bed, with the arms thrown out.

Autopsy, May 29th, 1892, about 20 hours after death.—Bloody froth about nose and mouth. Numerous ecchymotic spots in skin of back. Intense lividity. Stomach half full of partly digested food. Some food in œsophagus and pharynx. All the organs normal, with the exception of the lungs, which were almost coal-black in colour and had a fœtid, sour, disagreeable smell. On section, they seem to be intensely engorged and to present numerous large and small areas of extravasation of blood. The mucosa of bronchi and trachea intensely congested, dark red in colour, and contain bloody froth. Numerous food particles corresponding with the contents of the stomach found in the larynx, trachea, bronchi, and in the most minute bronchioles. The larynx does not appear to be obstructed.

Conclusion.—Death has been caused by the accidental entrance of food into the air passages.

Verdict—Accidental death.

Penetration of food particles into the air passages forms a common post mortem change, but the intense hæmorrhagic engorgement of the lungs showed that the condition had arisen during life.

A noticeable feature was the presence of post mortem digestion of the lung parenchyma in places.

It is difficult to imagine how this condition could have arisen except in consequence of an accident, probably of the nature of regurgitation of food while partially asleep.

Death from Effects of Burns (4 Cases).

Case 26.—P. H., aged 50. While watching beside the dead body of his wife, the drapery of the bier took fire. The body was found near the door after the fire was extinguished.

External Examination, 18 hours p.m.—Clothing much burnt. Face scorched, and hair and eyebrows singed. No blistering. Over back of hands and arms the skin is raised in great flakes, beneath which the cutis is much reddened. Rigor mortis marked. Cutis anserina present.

It was supposed that the deceased had lost his life while trying to extinguish the fire. Some of the curtains with which the room was hung had been pulled down, and the burns of the hands were possibly obtained in doing this.

Verdict—Accidental death.

The dead body of the wife was charred and scorched in places, and the cracked condition of the skin, without true vesication, gave an excellent demonstration of the distinctive appearance of burns on a dead body.

In connection with this case it may be noted that a signed certificate of death from "Tumour" was made out by a Montreal physician *two months* (!) before the wife's death, the date being left blank. This is death certification with a vengeance.

Case 38.—H. B., girl, aged 9.

Case 39.—A. B., boy, aged 7.

Case 10.—H. B., boy, aged 2.

These three children were fatally burned by a straw mattress taking fire and partly burning the house.

External Examination, May 25th, 1893.—The bodies were all scorched and the clothing burned. In all cases the heads, hands and backs of the arms and legs showed severe burning of the skin. Signs of inflammatory vesication were present in all the bodies except that of the baby.

Verdict—Accidental death.

The youngest child had apparently been suffocated before the burning was severe.

Death from Concussion, Shock, and Doubtful Causes (6 Cases).

Case 35.—J. O., aged 25, fireman, seen to be killed by a coping stone which fell from a roof and crushed in his helmet. Death instantaneous.

External Examination, May 11, 1893, 20 hours after death. Ecchymosis of both conjunctivæ. No fracture of skull can be felt. Increased mobility in lower part of neck without positive signs or fracture or dislocation. Laceration and contusion of scalp over left temple and in occipital region.

Conclusions.—There are evidences of severe contusions about the head. The cause of death cannot be stated from external examination.

Verdict—Accidental death.

Case 51.—P. F., aged 50, seen to fall down the shaft of an elevator for a distance of over 20 feet. Picked up unconscious, and died before reaching the hospital.

External Examination, June 7th, 1893. A large scalp wound over the vertex. Cartilage of nose lacerated and nearly detached. Fracture of left tibia and fibula above the ankle. Abrasions on arms, legs and trunk.

Conclusions.—The examination shows signs of severe external injuries. The cause of death cannot be stated without making an autopsy.

Verdict—Accidental death.

Case 16.—C. W., aged 24, switchman. Supposed to have fallen on the rails. Was picked up after a car wheel had passed over his legs. Brought to hospital in profound condition of shock. No evidence of severe hæmorrhage. Died within a few hours.

External Examination, March 15th, 1893. In upper lumbar region a feeling of fulness on palpation, of which the cause cannot be made out.

Both feet and ankles, together with the adjacent parts of tibiæ and fibulæ, greatly crushed and lacerated, being almost severed from the body. Skin not greatly blanched.

Conclusions.—There are severe marks of violence from crushing of the feet and ankles, with possibly an injury to the vertebræ. The external examination does not show the cause of death.

Verdict—Accidental death.

Case 1.—A. B., aged 40., street-car driver. His car collided with a railway train at a grade crossing and was completely wrecked. Died half an hour after reaching the Notre Dame hospital on Jan. 8th, 1893.

External Examination, 48 hours after death. Greenish tinge about neck and abdomen. Large lacerated wound extending from right gluteal region downwards along outer surface of thigh and upwards over iliac crest into abdominal wall. A probe can be passed through this wound into the ischio-rectal fossa, and the right ischium is felt to be fractured. A distinct fæcal odour noticed about the wound.

Verdict—Accidental death.

There had apparently been internal hæmorrhage from the vessels of the pelvis, with rupture of the bowel.

CASE 91.—A. M., aged 55. Was struck by an engine moving very slowly, and knocked into a cattle guard at the side of a crossing. Was able to walk home. Complained of pain in the right leg and right side. Refused to see a physician, but was treated by a quack. Stayed in bed off and on for 8 days, and afterwards went about. Four days later became unconscious, on Aug. 5th, 1893, and died during the night. Before death a physician was summoned, but was unable to make a diagnosis.

External Examination, Aug. 8, 1893.—Marbling of superficial veins. Emphysema about neck and right side. The lower ribs on right side feel less resistant than normal, and give indistinct crepitation. Beyond a slight abrasion of left hip, which has nearly healed, no external signs of injury.

Conclusions.—The cause of death cannot be determined without an autopsy. (No autopsy ordered.)

Verdict—Death from the results of his own imprudence.

CASE 28.—L. H., a boy, aged 13. While out riding, horse took fright. The boy fell from saddle and was dragged along by the stirrup. Death occurred 36 hours later.

Verdict—Accidental death.

Private Autopsy, made after the inquest.—At the back of the head is a large lacerated wound, exposing the occipital bone for a distance of 3 inches. The edges look foul and dirty, and there is dirt in the deep tissues exposed. There is ecchymosis about the lower jaw on the right side.

Severe contusions and lacerations of the skin over the shoulders and lower abdomen. Fracture of the right thigh in middle third. Deep lacerated wound of left thigh in region of Hunter's canal. Femoral vessels not injured. Laceration of ulnar side of left wrist.

On removal of scalp, extensive subcutaneous œdema on right side in occipital and temporal regions. Cranial bones intact. Dura and pia normal. Brain tissue œdematous throughout, but free from hæmorrhage.

Lungs much congested. In left lower lobe puckering with several gritty, cheesy, encapsulated masses the size of beans, situated near the base. A similar mass near the root of the left lung. Pulmonary vessels free. Microscopically, no evidences of fat emboli.

Heart, spleen, kidneys, liver, stomach and intestines normal.

No thrombi or signs of injury in deep femoral vessels.

The time which had elapsed since the accident, while not excluding death from shock, makes it less probable.

In many of the above cases the manner of death was fairly evident from the testimony of non-medical eye-witnesses. It is just in the most obvious and simple cases, however, that neglect of the precaution of a careful medical examination leads to serious and expensive blunders, as was shown in a case of gunshot fracture of the skull, which I reported in a previous paper. An official medical examination, even in apparently simple cases, does not seem to be an unnecessary precaution, or one which can safely be neglected in any case.

(To be Continued.)

Retrospect Department.

QUARTERLY RETROSPECT OF GYNÆCOLOGY.

Prepared by T. Johnson-Alloway, M.D., Montreal.

Ventrofixation of the Uterus, or Hysteropexy.—Dr. Leith Napier and Dr. Schacht have written a paper (*B. M. Jour.*, Oct. 14th, 1893) upon this subject. They describe the *lateral* and *median* methods. The lateral is justly regarded by them with disfavour. The median is the method recommended and adopted. They recommend, however, the passing of three sutures, and including the peritoneum, fascia and muscle, and passing these sutures with a Hagedorn needle. In regard to the three sutures, two of them are quite unnecessary ; one, if properly placed, is quite sufficient. The Hagedorn needle should not be used, as it is dangerous from its property of making an incised wound in the uterus and causing hæmorrhage. One death has been reported from hæmorrhage on this account after the abdominal wound had been closed. A strong, round, fully curved needle, with abrupt trocar point, is the proper needle. It does not cut, but merely pushes the tissues aside. The sutures should not penetrate the muscle of the abdominal wall. The peritoneum only should be attached to the fundus. In the normal condition, the recti do not offer any assistance to the uterine supports, and if they are included in the suture, every movement of the body, involving movement of the recti, will pull upon the fundus of the uterus and cause pain. It also produces a rigid fixity of the uterus in suspension, which should be carefully avoided. Pregnancy following such an operation will cause great suffering from the same cause (traction on the recti), and probably abortion. When attached to the peritoneum alone, there is ample freedom, and not sufficient to allow the uterus to assume any but an anteverted position. The reviewer has been in the habit of operating in the following way : Drive the needle from below upwards through the peritoneum, close to the line of incision and close to the lower angle of incision, on the right side ; then drive it through the fundus on the posterior face of the uterus,

from right to left; then pass needle through the peritoneum on the left side, in a similar manner as on the right side, and at a corresponding place. It will now be seen that when this suture is tied the cut edges of the peritoneum and the punctured surfaces of the uterus are brought together, and therefore plastic union must be very good and strong. Silkworm gut forms the best material. The mortality recorded by Dr. Napier is very high (2 deaths in 20 cases), but further experience will undoubtedly reduce this. It will, however, tend to impress operators with the necessity for caution. It will never, to our mind, take the place of Alexander's operation, as they are not applicable to the same class of cases. Where the uterus is mobile, non-adherent, the pulling up and shortening of the "*guy ropes*" of the broad ligaments will always give better results than hysteropexy, for very obvious reasons. But the many difficulties encountered in performing Alexander's operation will ever be a drawback to it and render it unpopular. In the reviewer's experience, however, (now over 100 cases), there has been no method of procedure which has given him more gratifying results. Dr. Napier's paper is an admirable one, and well worth studying.

Pelvic Neuralgia from Calcified Ovary.—POLAILLORD (*Annales de Gynéc.*) reports a case of a patient 26 years of age who suffered from neuralgic pains in the right iliac fossa, and radiating to the right flank. They increased at the periods, which were regular. Ultimately they became constant. A hard mass was felt at the base of the right broad ligament. When touched, severe pain ensued. Abdominal section was performed. The mass was found fixed to the anterior wall of the pelvis, and was detached and removed, with the tube of that side fixed to the mass. The hard body weighed 75 grains. After removal the neuralgic pains disappeared and the patient recovered.

Old Tubal Abortion.—(*Am. Jour. Obst.*)—H. T. HANKS, on removing a fibroid from a patient aged 45, discovered unexpectedly the bones of a fœtus at the bottom of the pelvis. On inquiry it was found that the patient had suffered from all the symptoms of tubal abortion four years before.

Pelvic Abscess Tracking to Nates.—Dr. Wm. Hardman speaks of a case of his own, and also of one which was published by Launay in the *Gazette des Hôpitaux*. In this case the parametritic phlegmon followed the gluteal artery through the sciatic notch and formed a large abscess under the gluteus maximus. Dr. Hardman states that this condition cannot be a very rare one, and cites a case of his own similar to the one published by Launay. The relationship of the sciatic nerve to the advancing phlegmon accounts for the severe radiating pains, and the great liability of such a condition being mistaken for neuralgia—notwithstanding the presence of persistent pyrexia,—and the patient half poisoned with quinine, is quite evident. In Dr. Hardman's case the patient had suffered many weeks of pain and pyrexia following confinement. There was gradual swelling and hardening of the right buttock, which eventually became a solid mass. The skin was œdematous and red, but no sign of pointing after persevering poulticing, and no sign of fluctuation could be made out. At last a bistoury was passed down, and pus evacuated and the cavity drained. The cavity communicated through the sciatic opening with the interior of the pelvis.—(*B. M. Jour.*, Oct. 28th, 1893).

Plugging the Uterus in P. P. Hæmorrhage.—Siepen delivered a woman of her twelfth child, using forceps. Severe flooding followed, which did not abate after removal of the placenta. He therefore plugged the uterine cavity with iodoform gauze. The vagina was tamponed with wool. The flooding ceased. Both tampons were removed in 24 hours. The patient made a good recovery.—(*Deut. Med. Woch.*, No. 21, 1893.)

Symphysiotomy Four and One-Fourth Years after a Cæsarean Section.—From Chrobak's clinic comes the report of this operation by Regnier, the patient being one upon whom Breisky performed Cæsarean section over four years previously. The patient was rachitic, and was pregnant at term. Presentation transverse. Pelvis flat, rachitic. Ant. post diam., 7½ c.m. Symphysiotomy performed. Child extracted manually. Two silver sutures were used to unite parts. Patient recovered.—(*Centralblatt für Gynäkologie*, 1893, No. 6).

One Hundred and Twenty-Four Symphysiotomies.—Varnier (*Annales de Gynécologie et Obst.*) sums up the present status of symphysiotomy by tabulating 124 cases as follows:—Mothers—112 recovered, 12 died. Children—92 lived, 32 died. Of the mothers, 1 died from septicæmia, 1 of sphacelus of the vagina and vulva, 1 of cellutitis and peritonitis due to use of a saw and to forcible introduction of hand and arm, 1 of hæmorrhage and shock following operation.

Conclusions.—1. The operation, properly performed, does not entail disorder of the sacro-iliac synchrondroses.

2. In pelves not *extremely* contracted, the enlargement resulting from the operation is sufficient for a living child at term to pass through.

3. The dividing of the symphysis presents no great difficulties.

4. No dangerous venous hæmorrhage is likely to occur.

5. The anterior rents of the soft parts may be avoided if it is remembered that after section the inferior strait is oval transversely, and not of normal shape.

Uretero-Ureteral Anastomosis. — Uretero-Ureterostomy.—This is the title of a paper which our esteemed friend Dr. H. A. Kelly, of Baltimore, gives us in the *Johns Hopkins Bulletin* for October, 1893. To the ordinary reader it means that Dr. Kelly divided the ureter, passed one end into the other and secured it there by sutures, and the patient recovered without a bad symptom. The history of Dr. Kelly's case is as follows: A mulatto girl about 25 years of age. The diagnosis of a large myoma uteri was made. The tumour filled the pelvis and lower abdomen. Dr. Kelly first ligated the round ligaments and both ovarian arteries and veins, and then opened the broad ligament and pushed its layers aside, exposing the uterine vessels on the floor of the pelvis. At this juncture, a large, flat vessel, 1 cm. in diameter, was exposed for about 7 cm. of its length on the anterior surface of the lower pelvic mass. It closely resembled an enlarged vein. It was doubly ligated and cut. The error was apparent at once, as its patulous lumen and thick walls showed it to be the ureter. This enlargement was due to pressure of the tumour. After completing the removal of the

tumour, Dr. Kelly followed Van Hook's method of anastomosing the severed ureter, as follows: He tied the lower end of the divided ureter, and then made a slit in the ureter below the ligature, into which he invaginated the upper end by means of traction sutures. This is certainly the best of all other methods of dealing with this accident. It has been successfully tried on dogs. And after Dr. Kelly's successful case, Dr. Bloodgood carried out the same operation on a large dog, with success also.

Ovariotomy in Japan.—Omori and Skeda, of Fu Kuo Ka, Japan, report one hundred ovariotomies, with five deaths, two of which were from complications not due to the operation. Among the tumours, 36 were dermoid cysts—an nnusual proportion, since Spencer Wells found only 22 in 1,000 ovariotomies. The authors can only explain their unique experience on the theory that Japanese women are unusually prone to develop dermoids.

Employment of Iodoform in Abdominal Operations.—Treves (*Lancet*, June 10, 1893) publishes a valuable paper with the above title, of which the following is a brief extract:

Sir Joseph Lister, in his admirable address on the "Antiseptic Management of Wounds," published in the *Lancet* a few months ago, drew attention to the very peculiar antiseptic properties of iodoform. He showed that the drug had little, if any, influence over the growth of bacteria outside of the body, and that if it be dusted over sterilized cultivating jelly in a test tube, growth will take place from the organisms which are contained in the iodoform itself. He then proceeds to consider the question in the following words: "But, though such is the case, it is nevertheless unquestionably true that iodoform exercises a powerful antiseptic influence upon wounds. The most probable explanation of this apparent anomaly is that suggested by Behring, namely, that iodoform produces its beneficial effects not by acting directly upon the bacteria, but by inducing chemical changes in their toxic products. Behring has ascertained, as a matter of fact, that some of these toxines are altered chemically by iodoform, and at the same time rendered

harmless. Two of his experiments. performed in conjunction with DeRuyter, may be quoted in illustration. A ptomaine obtained from a culture of pyogenic micrococci killed a mouse in twelve hours when injected pure into the peritoneal cavity, but proved quite harmless under similar circumstances when mixed with a little iodoform. Again, a sample of decomposing pus, which had fatal effects when introduced unmixod into the peritoneal cavity of a mouse, had no influence whatever upon the health of the animal if treated with iodoform, which meanwhile left intact the pyogenic microbes."

Ovariotomy with Pregnancy.—Fancourt Barnes, of London, reports the removal of a multilocular ovarian cyst in which there were adhesions of intestine to almost the whole surface of the cyst, and the intestine in a state of acute congestion. The tumour was found to spring from the left side of the uterus, which was enlarged about the size of a four months' pregnancy. The abdomen was washed out with clean, warm water, and the wound closed with silver sutures. The patient recovered without interruption of the pregnancy.

Gynæcology in Breslau.—(*Medical Press*, Sept. 20, 1893.)—Professor Fritsch, of Breslau, has recently published a small volume on his gynæcological experience in the University Klinik of Breslau during 1891–2, and containing his matured views on various subjects. Of 66 ovariotomies performed during this period, 3 died from uncontrollable vomiting, 1 from pulmonary embolism, and 1 from narcosis. Of 37 laparomyomotomies, 4 died, 2 from cardiac failure, 1 from secondary hæmorrhage, and 1 from ileus. Of 30 operations on the so-called adnexa, 6 died, 2 from cardiac failure, 1 from contracted kidney, 1 from septic peritonitis. All the laparotomies for extra-uterine gestation recovered, so that he has now a total of 23 such operations without a death. Fifteen ventro-fixations all recovered, and also 7 Cæsarean sections or Porro operations, and 1 case of abdominal hysterectomy for ruptured uterus.

Vaginal extirpation of the uterus for cancer was performed 27 times with 2 deaths, high cervical amputation 5 times with 5 recoveries, and the uterus was removed *per vaginam* 8 times

for hæmorrhagic metritis, with a successful result in all cases. Some of our readers will probably be surprised to find that German surgeons are obliged to resort to such a radical and multilating operation for a disease that a little time and a little patience will almost invariably carry the patient safely through. But Professor Fritsch has long been known as an enterprising operator. Gynæcologists generally will be more likely to agree with him when he says that all ovarian tumours should be removed as soon as discovered, for the reasons that they are peculiarly liable to malignant degeneration and exposed to dangerous accidents. Malignant ovarian tumours should always be removed when practicable. He has succeeded in actually curing cases of solid carcinoma and sarcoma of the ovary. He would go even farther than this, however ; in cases where the disease cannot be wholly removed he recommends the removal of as much of the tumour as possible, and this on the ground of his own experience. The patients are very much benefited by such partial operations, for not only does the ascites disappear, but the disease is more or less impeded in its progress. Peritonitis is not for Professor Fritsch a contra-indication for operation in ovarian tumour, but rather the contrary.

The indications for myomotomy are size of the tumour and hæmorrhage that render patients permanent invalids. In the case of suppurating myomata that cannot pass *per via naturales* he recommends abdominal hysterectomy. He has now abandoned the external pedicle treatment, but by preparatory ligaturing the pedicles diminished in size and left in the abdominal cavity. He enucleates only in the case of small tumours lying immediately beneath the surface, and removes the ovaries only in cases where the hæmorrhage has been such as to render a more radical operation advisable. As his familiarity with hysterectomy increases, he performs castration with proportionate diminishing frequency.

In the chapter on rupture of the uterus, Professor Fritsch, contrary to what might have been expected, does not advocate active measures, but, on the contrary, warns his readers against them—against even drainage. The patient must be kept per-

fectly still, and have opium in the first twenty-four hours every two hours, and afterward as required. The urine is drawn off with the catheter, and the patient has a heavy application over the abdomen, keeping perfectly still. An occlusive disinfecting pad is placed over the external genitals. The vagina itself remains without treatment. As every laparotomy has a weakening influence upon intestinal movement, toward which the author thinks it possible that the strong purgatives usually given before operation contribute, he feeds patients up even to the day of operation. If symptoms of paresis of the intestine then occur, he gives purgatives and enemata along with wine, even on the first and second days.

The Development of Intra-Pelvic Treatment of the Stump After Hysterectomy for Fibroid Tumours.—(Dr. J. RIDDLE GOFFE.) In this paper the author dwells upon the value of the operation described by him, which has the following features : (1) The large, distinct peritoneal flaps with which the stump and all traumatic tissue involved in the operation are buried beneath the peritoneal cavity ; 2) the transfixion of the stump inside these flaps ; and (3) the utilizing, when necessary, of the cervix as a draining tube. He tells that in 1891, Zweifel, of Leipzig, reported a series of fifty-one cases with two deaths, by a method that corresponds in all essential particulars with Dr. Goffe's method, thus giving a mortality of only four per cent. This is the best record made by any operator with any method, and puts the operation on a par with the success of ovariotomy. Competition for supremacy lies between this method of leaving the pedicle and total extirpation. The disadvantage of total extirpation is the technical difficulty of removing the cervix. By leaving the cervix as a stump the traumatic tissue is disposed of with all the nicety of a plastic operation, the parts are restored to their normal relations in the pelvis, and no raw surface is left to contract adhesions or produce obstruction. Statistics are strongly in favor of retention of the cervix. Fifty-one operations with only two deaths, a mortality of four per cent., and the last twenty-seven an unbroken series of successful cases, is the standard that is set for the total-extirpationists.

The Significance of Vaginal Discharges.— A leucorrhœa, inodourous or of mild odour, persisting during the climacteric, accompanied by increasing hæmorrhage, is suspicious, and demands investigation. A leucorrhœa, profuse, of peculiarly fetid odour, grumous, excoriating, appearing early or late during the climacteric, with profuse hæmorrhage, is reasonable evidence of cancer of the cervix. A leucorrhœa, moderate in amount, ill smelling (the peculiarly fetid odour of cancer of the cervix being absent), accompanied by hæmorrhage, suggests cancer of the corpus uteri. A leucorrhœal discharge, with hæmorr hage containing material like the washings of meat, is said to indicate sarcoma. A watery discharge, as a rule occurring during menstruation, odourless, or of little odour, persisting, accompanied by profuse hæmorrhage, indicates fibroids; with little or no hæmorrhage, polypi. Profuse bloody discharges coming on gradually with declining menstruation, ceasing usually with the menstrual flow, point to fibroids. Persistent profuse discharges of blood occurring spontaneously, arising from sudden exercise or coition, occurring as a rule after the menopause, indicate cancer. A gradually increasing amount of menstrual flow is suspicious, and needs investigation. Postclimacteric hæmorrhage in a fibroma of the uterus of long standing forms one of the principal grounds for the suspicion of sarcoma (Borner). The early recognition of malignant disease is demanded, and possible prevention of the fatal exhaustion which accompanies it by the administration of drugs, and the application of those methods which in a measure may be supposed to offset the terrific drain on the nervous system. Inasmuch as present experience shows that every removal of diseased tissue prolongs life, the importance of early diagnosis and treatment can hardly be over-estimated.

Vaginal Hysterectomy and High Amputation in Carcinoma Uteri.—Tipjakoff's statistics are very good. (*Centralblatt für Gynäkol.*, 1892, No. 43.) In 50 cases of malignant disease of the uterus treated during the years 1891 and 1892, he performed simple amputation of the cervix 5 times, high amputation 25 times, and vaginal hysterectomy 20 times with-

out a death. He prefers complete extirpation for cervical disease, but regards it as indispensable that the uterus should be movable, and no evidence of infiltration in the parametria. He employs silk ligatures entirely, and nearly always uses gauze drainage, changing it on the fourth day.

Cyst of the Pancreas Simulating Ovarian Cyst.—HERSCHE, (*Weiner. Klin. Wochenschrift*, 1892, No. 15) reports the following case :—Multipara, aged 32, noticed for 5 years a tumour, size of an apple, to the left of the umbilicus, unaccompanied by pains or history of previous injury. It could be felt through the anterior vaginal fornix to the left of the uterus, and a distinct fluctuation could be obtained. The diagnosis of ovarian cyst was made and laparatomy performed. The pelvic organs were found to be normal. The tumour was a cyst, which sprung from the tail of the pancreas, and was so adherent to the vertebral column that it could not be enucleated. Nearly 2 quarts of chocolate-coloured fluid were withdrawn, and the edges of the cyst were stitched to those of the wound. The patient made a good recovery.

Acute Peritonitis Following Rupture of a Dermoid Cyst in a Puerperal Patient.—TISON. (*Revue Obstét. et Gynécol.*, May, 1892,) reports the case of a primipara who had been delivered by forceps. On the following morning symptoms of peritonitis presented. The condition became worse, and the woman died 5½ days post-partum. The autopsy showed as cause, ruptured dermoid of left ovary.

How is Tubercular Peritonitis Cured by Cœliotomy.—BUMM, (*Centralblatt für Gynäkol.*, No. 22, 1893,) analysed a case of tubercular peritonitis where, after opening the abdomen and draining off the ascitic fluid, the patient did well.

He believes that the operation sets up changes in which the tuberculous deposits undergo a round-cell infiltration and cicatricial change. The giant cells and epithelial elements disappear. The serous fluid greatly promotes the growth of the tubercle bacillus, and its removal is, therefore, also beneficial.

Pelvic Disease in the Insane.—ALICE BENNETT, M.D. (*Report to Board of Trustees State Hospital for the Insane*,

Pennsylvania.) The summary which is attached to this report is interesting, as it covers the debate which is at present going on, on this subject. The care of the insane certainly involves the same attention to their bodily ailments as is given to those in full mental vigour, and if, in any special case, any reasonable hope is offered that the insanity is caused by any removable condition, the operation, which may be in that way partially experimental, is just as much a matter of necessity as the trial of a new drug, or any other therapeutic or hygienic measure. The summary is as follows :—" Of six cases operated upon, three, or half the number, have perfectly recovered in body and mind ; one is much improved ; one is improved in some respects and not in others ; one died. It is of interest to note that five of the six cases were of puerperal origin. I wish to emphasise the following facts :—(1.) That cases were selected for operation only after careful, searching examinations often repeated.

(2.) That each case selected was the subject of serious bodily disease, such as may properly be, and frequently is, treated by surgical interference, quite apart from the insanity, which is only an incident, or symptom, of the disease.

(3.) That in every case of operation performed, the consent of the nearest relative, or guardian, of the patient was obtained.

Finally, I believe that many cases now under our care and others to come, might be saved from years of physical suffering, from hopeless dementia by appropriate surgical treatment

In other and similar cases in the future, I cannot reconcile it to my conscience to be merely a passive observer and recorder of their decline. If, in Pennsylvania, insanity is to be a barrier to the treatment of bodily diseases, it will be my duty to urge upon the guardians of these helpless ones, incapacitated from speaking on their own behalf, the necessity of taking their suffering charges outside the State limits, if need be, where they will be free to receive the treatment adapted to their needs."

Pathological Reports.

CANCEROUS TUMOUR ARISING FROM THE SUDORIPAROUS GLANDS.*

By C. F. Martin, M.D.

The patient from whom the above growth was removed was a contractor, 45 years of age, having a history of previous good health, with the exception of occasional attacks of dyspepsia. No history of syphilis, nor was there any family history of cancer or other tumour.

Early in 1890, the patient observed, for the first time, a small lump in the left groin, in size equal to a bean, perfectly painless, which he attributed to a blow received in this region some months previously.

The growth was regarded as some affection of the sebaceous glands, and no treatment other than the application of iodine was adopted for over a year, there being no appreciable alteration in the character of the tumour during that time.

Towards the end of 1892 it gradually increased in size, and was now for the first time painful, the patient at times suffering intensely. The skin too showed signs of irritation and became adherent to the growth. This condition became progressively worse and removal was recommended and performed November, 1893, by Dr. Roddick, who forthwith sent the tumour to the McGill Pathological Laboratory.

On examination the growth was found irregularly spherical in shape, 1½ inches in diameter. On section it offered considerable resistance to the knife, while on the cut surface were seen numerous small points from which a greyish turbid fluid escaped. This fluid examined under the microscope presented masses of irregularly rounded or oval cells, slightly larger than pus cells, and many undergoing fatty and granular degeneration.

Stained sections of the tumour cut so as to include the adherent skin, showed the epidermis to be only slightly affected, there being but a slight proliferation of the epithelium, while beneath

* Shown before the Montreal Medico-Chirurgical Society, Nov. 17th, 1893.

it was increased fibrous tissue, a condition of chronic inflammation. Beneath this, in the subcutaneous tissue, was seen the tumour proper, presenting the usual appearance of a simple carcinoma, masses of large irregular cells amid extensive areas of fibrous tissue, in an alveolar arrangement.

On closer inspection of the parts, it was found that the growth took its origin from the epithelial lining of the sudoriparous glands, in whose ducts could be seen the various stages of proliferation of cells, while in the neighboring regions were the appearances of an alveolar cancer. The sebaceous glands presented no abnormal appearance, nor was there any evidence to point to the origin of the tumour, other than that suggested.

Although many cases of adenoma of the sweat glands are said to have been falsely regarded as carcinomatous, there is, however, in the present instance so typical an appearance of an alveolar carcinoma that such an error is quite impossible and the tumour cannot be regarded other than as a cancer arising from the sudoriparous glands.

Reviews and Notices of Books.

Syllabus of Lectures on the Practice of Surgery. Arranged in conformity with the American Text-Book of Surgery. By N. Senn, M.D., Ph. D., LL.D., Chicago. Professor of the Practice of Surgery and Clinical Surgery in Rush Medical College; Professor of Surgery in the Chicago Polyclinic; Attending Surgeon to Presbyterian Hospital; Surgeon-in-Chief St. Joseph's Hospital; President Association of Military Surgeons of the United States; Ex-President American Surgical Association; Honorary member of the Academy of Medicine of Mexico; Honorary Fellow College of Physicians in Philadelphia; Corresponding Member Harveian Society, London; Honorary Member Medical Society of Edinburgh; Life Member Congress of German Surgeons; Member of the American Medical Association, etc., 221 pages, price $2.00. W. B. Saunders, 925 Walnut Street, Philadelphia, 1894.

This is intended by the author as a short guide to teachers of surgery, a sort of skeleton to be clothed by them according

to their personal bias; and as a help to the student by presenting the main facts in so many words, thus indicating the important points. As the heading declares, it is arranged in conformity with the "American Text-Book of Surgery," so that the student has a ready aid in getting up his work. By using the "Syllabus" as a guide and reading the matter up more fully in his text-book, he is prevented from wasting his time over non-essential details. It is a matter to be regretted that the proof reading has not been more thoroughly done, the mistakes quite altering the sense of certain parts. For instance on page 81, we notice the word "marked" instead of "masked," and on the following page we see "abduction" twice instead of "adduction." With such mistakes remedied, it will prove a useful book, both for teachers and students, especially as it comes from the pen of so accomplished and experienced a teacher as Dr. Senn.

A Guide to the Public Medical Services, containing information of appointments in the Home, Naval, Army, West Coast of Africa, Indian and Colonial Medical Services, compiled from official sources by Alexander S. Faulkner, Surgeon-Major, Indian Medical Service, London, H. K. Lewis, 1893, pp. 72, price 2s.

The scope of this work is indicated by the title. In it information regarding the wording of applications is given and to whom they should be addressed. Also the rate of pay, pensions, rank, etc. The information is reliable, being gathered from official sources, and with the permission of the Comptroller of Her Majesty's Stationery Office. The book is specially to be recommended to all who wish to enter the medical services of the British Government.

E. B. Treat, New York, announces the following for early publication:—

A System of Legal Medicine. A Complete Work of Reference for Medical and Legal Practitioners by Allan McLane Hamilton, M.D., of New York, and Lawrence Godkin, Esq., of the New York Bar, assisted by Thirty Collaborators of recognised ability. In two royal octavo volumes of about 700 pages each. Fully illustrated.

The great need of a Standard American Work on Medical Jurisprudence has long been felt; and this work gives abun-

dant promise of being just what the Medical and Legal profession have so long wanted. Every department will be thoroughly and reliably treated.

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The Successful Management of Inebriety Without Secrecy in Therapeutics. By C. H. Hughes, M.D., St. Louis. Reprint from *The Alienist and Neurologist*, St. Louis, Jan., 1894.

The Relations of Urinary Conditions to Gynæcological Surgery. By Charles P. Noble, M.D. Reprint from *American Medico-Surgical Bulletin*, Oct., 1893.

Report of the Kensington Hospital for Women. From October 10th, 1892, to October 9th, 1893. Philadelphia.

The Causation of the Diseases of Women. By Charles P. Noble, M.D., Philadelphia. Reprinted from *The Journal of the American Medical Association*, Sept. 16th, 1893. Read in the Section of Obstetrics and Diseases of Women, at the Forty-fourth Annual Meeting of the American Medical Association.

Report of a Year's Work in Minor Gynæcological Surgery in the Kensington Hospital for Women, Philadelphia. By Charles P. Noble, M.D., Surgeon-in-Chief. Reprint from the Transactions of *The Philadelphia County Medical Society*. Read Oct., 25th, 1893.

Report of Two Years Work in Abdominal Surgery at the Kensington Hospital for Women, Philadelphia. By Charles P. Noble, M.D., Surgeon-in-Chief. Reprinted from *The International Medical Magazine* for Dec., 1893.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, Oct. 20th, 1893.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Drs. H. B. Carmichael, C. F. Martin, P. J. Hayes, and T. P. Shaw were elected as ordinary members.

Enucleation of Tumour of the Thyroid Gland.—DR. SHEPHERD related two cases of this operation.

The first was performed on July 5th, 1893, by cutting through the capsule after ligating the thyroid arteries. The tumour was readily shelled out and the hæmorrhage was trifling. The growth had been rapid and had caused increasing difficulty of breathing. In the second case, operated on September 29th, 1893, the growth was larger and extended below the clavicle, but was easily shelled out. Attached to it were a number of vessels spreading out like the branches of a tree, but none of them required tying. In the dissecting room he had recently seen a similar tumour which he had been able, easily to shell out. After this operation there was no danger of any œdema, and enucleation was likely to be the operation of the future.

The PRESIDENT remarked that in both Dr. Shepherd's cases the growths were cystic. He had seen Kraské enucleate an adenoid goitre extending below the clavicle. It had shelled out quite easily.

Fibroid Tumour of the Uterus Dr. LAPTHORN SMITH showed a specimen which he had removed from an unmarried lady aged 34 years. The bowels had always been regular—an exceptional circumstance in such cases. A few weeks ago her legs became swollen. On examination, a diffuse fibroid tumour was found occupying the posterior wall of the uterus. The transverse diameter of uterine cavity was increased. Patient was anæmic. Abdominal hysterectomy was performed on October 2nd, 1893, the uterus being transfixed at the level of the internal os. No complications. Highest temperature was 100½° in mouth. The stump was dressed with boracic acid and was free from all unpleasant odour. Peritoneum, linea alba and skin were sutured separately. Convalescence was good.

Small fibroid tumours of the uterus and broad ligaments, Dr. Wm. Gardner exhibited this specimen removed from Mrs. L., aged 42, married 13 years, sent to him by Dr. W. Grant Stewart. The operation was exceptionally difficult owing to adhesion of the entire omentum to the anterior abdominal wall. Two nodular myomata were enucleated from the right broad ligament, the ovaries and tubes removed, and the uterus amputated by the flap method after ligating the uterine arteries. There was considerable oozing. A glass drain was introduced. Four hours later hæmorrhage commenced, but was checked by pouring a sterile solution of perchloride of iron into the tube. The tube was removed in 48 hours and recovery was steady. The growths in the broad ligament appeared to be distinct from the uterus.

Grape Tuberculosis of the Peritoneum, Dr. Adami exhibited a specimen received from Dr. Gardner.

Dr. Gardner had recently performed an exploratory laparotomy upon a young woman, where upon opening the abdomen, the intestines omentum and the parietal peritoneum were found to be studded with nodules varying in size from a small pea to that of a grape. There must have been more than a thousand of these new growths, which were white, firm and globular. No large conglomerate growth could be found in connection with the ovaries, uterus, intestines or other organs. In removing a few of the growths from the mesentery they were easily separated from the surrounding tissue, and upon microscopic examination exhibited the characteristics of tubercles. The masses were subserous, and were composed of tubercles of a peculiarly chronic type, many showing central necrosis, although the caseating masses did not coalesce, while all were surrounded with well formed layers of fibrous tissues. There were numerous giant cells, and further study demonstrated the presence of numerous tubercle bacilli. Dr. Adami described this as "grape tuberculosis" from its similarity to the "grape disease" or tuberculosis of cattle. This is a chronic form of tuberculosis. He exhibited the liver of a calf just received by him which upon its surface showed similar grape like masses of tubercles.

Dr. Gardner stated that the patient had been sent to him by Dr. Ewing, of Hawkesbury. The nodular masses and thick-

ened omentum could be made out by palpation. After watching the case for three weeks tuberculosis was suspected, there being physical signs in the lungs and a rise of one degree or more in the evening temperature. Operation was performed, as experience had taught that peritoneal tuberculosis was a remediable condition.

Dr. SHEPHERD referred to a man under his care three or four years ago, where the temperature reached 104° daily for several weeks and hardness could be felt through the abdominal walls. On operation he had found a condition almost identical with the specimen shown. Some of the masses were examined microscopically and pronounced tuberculous. From the day of operation, he commenced to improve. The temperature soon fell, and a year later he had gained twenty pounds in weight.

Dr. MILLS thought the benefit was explainable through the effect of the operation upon the nervous system thus indirectly changing the metabolism of the whole organism.

Dr. SMITH thought the improvement might be due to the irritation caused by the entrance of air.

Dr. LAFLEUR was surprised to find this subject regarded as new. Dr. Osler in his monograph on tuberculous peritonitis states that through miliary tuberculosis does not get well, chronic forms always improve. Ordinary puncture does not have the same effect as incision. He considered that spontaneous healing of peritoneal tuberculosis also took place.

Dr. ADAMI considered that the "shock" which follows upon abdominal incision sufficed to explain the retrogression of the tubercles. It is well known that exposure of the peritoneum leads to an inflammatory condition of the same, to dilatation of the vessels and increased blood supply. As Professor Roy had recently shown in "shock" produced by various means, the specific gravity of the blood rises rapidly and is accompanied by increased exudation into the peritoneal cavity and dilatation of the mesentery and intestinal vessels. He held that with this inflammatory or sub-inflammatory condition there was increased nutrition of the tubercular areas, improved state of the cells and thereby arrested advance of the tubercular process, and cicatricial tissue developed so as to encapsule the tubercles. In the chronic cases such as that exhibited by

him there was already a tendency to this, so that slightly increased vascularity and improved nutrition would turn the scale in favour of the organism and against the micro-organism.

Dr. F. W. Campbell thought that the system could be permanently influenced by shock and gave illustrations in support of this view.

Ovarian Dermoid.—Dr. Adami exhibited a large dermoid which had been sent to him by Dr. W. Gardner. The tumour measured six inches in diameter; the walls outside showed membraneous adhesions. Upon opening the cyst was found to be filled with thick fluid with fatty particles floating in it. and when this had escaped the cavity was seen to contain a large amount of fatty material and debris, and a relatively very large quantity of loose hair tending to be arranged in balls. The walls were irregularly thickened and in them was a large bone of irregular shape, consisting of a main portion $2\frac{1}{4}$ in. in length and $\frac{1}{2}$ in. in thickness. From this at one extremity projected two wings, of which the larger was 3 in. long, while the smaller bore a clump of three well developed teeth projecting into the cyst. At the other extremity was given off a line of three small flattened bony plates united together by fibrous tissue, in all $2\frac{1}{8}$ in. long. The main mass of bone was hollow, containing towards its outer surface a subsidiary cyst also bearing hair. Into it projected from the bony floor a cystic glandular mass. This large bony mass could easily be felt upon abdominal palpation before the operation. While small bony developments in ovarian dermoids are not uncommon, it is extremely rare to obtain so large a mass as the one here described.

Dr. Wm. Gardner stated that clinically the only point of interest was that the torsion of the pedicle was not extreme enough to interfere with the circulation.

Fibroid tumour from the sheath of the Femoral artery, with secondary growth within the femur—Dr. Adami This tumour had been removed by Dr. Roddick, who finding upon his first attempt at simple removal that it was intimately connected with the sheath of the lower end of the femoral artery, determined to amputate the leg of the patient, an elderly lady, and cut across the femur at the junction of the upper and middle thirds of the bone. The tumour reached

Dr. Adami in bad condition, having accidentally been laid aside. Its structure was that of a slow growing spindle celled sarcoma, which in parts was more truly fibromatous, and which throughout showed a tendency to a fasciate arrangement of the constituent cells. No secondary growth had been made out anywhere, but upon making a longitudinal section of the removed femur there was discovered a white mass, the size of a Barcelona nut, lying somewhat loosely in the medulla of what corresponded to the lower part of the middle third of the bone, and this upon microscopic examination was seen to be of sarcomatous nature, being formed of spindle cells, of typical form towards the periphery, but more internally possessing nuclei which might at first sight be mistaken for those of a myoma, their length being remarkable.

Perforation of the Femoral artery and vein in Hunter's canal by a bullet wound.—Dr. Bell. On Sept. 16th, 1893, the patient, a boy, was shot in the thigh by a 16-calibre ball. On bandaging the bleeding ceased, but the pain in the thigh prevented walking. A few days later he entered hospital, when a fusiform swelling in the region of Hunter's canal was observed. There was no diffuse pulsation, but a very loud bruit on auscultation. One and a half inches of both vessels were removed. On the fifth day pulsation could be felt in the posterior tibial artery.

Appendicitis.—Dr. James Bell exhibited specimens from the following seven cases:

1. Recurrent case. Operation three weeks after the second attack. Perforation with local abscess.

2. Operation 18 hours after the onset. Appendix greatly dilated and quite gangrenous.

3. Operation 48 hours after onset. Widespread abdominal pain. The appendix looked normal externally, but was full of grumous bloody fluid.

The adjoining lymph glands were enlarged and soft and the peritoneum œdematous. It appeared to be a case of early catharrhal appendicitis with severe lymphangitis.

4. Operation 50 hours after onset. Appendix gangrenous.

5. Operation 41 hours after onset. Appendix perforated and gangrenous.

6. Operation one week after onset. Appendix perforated. The patient was in a septic condition and subsequently died.

7. Operation two weeks after onset. Appendix perforated with local abscess. The patient died apparently from toxæmia rather than septicæmia.

Of the gangrenous cases none had died, and of the catarrhal cases, two died; so that the milder forms appeared to be by no means so far from danger as is generally thought. The marked symptoms in gangrenous cases lead to early operation while the milder forms are neglected.

Dr. SHEPHERD referred to a case where the appendix was apparently only a little thickened. Dr. Johnston had found it filled with pus and blood. He had been unfortunate with his gangrenous cases, three having died unrelieved by the operation. Operation may be performed too early, before there is a line of demarcation formed.

Enlarged glands pressing upon the trachea from a case of Hodgkin's disease.—Dr. FINLEY exhibited the specimens obtained at an autopsy upon a man aged 27, and gave an account of the case. (The patient had been previously brought before the society in Oct. 1890, by the late Dr. R. L. MacDonnell, and the case had been published in the International Clinics for Oct. 1891.)

The disease had lasted 7 years. The earliest symptom was the occurrence of urgent attacks of dyspnœa. After an interval of two years these attacks recurred and enlargement of the cervical lymph glands was noted. The spleen was then enlarged. The removal of some glands from behind the sternum by Dr. Shepherd, gave relief. In 1891 there was stridor and dyspnœa, with enlargement of the cervical and axillary lymph glands the size of which varied considerably from time to time. In Dec. '92, the inguinal glands enlarged. Six months before death the man became very weak and anæmic, though temporary improvement followed the administration of Fowler's solution. In June '92, the blood count gave 3,317,000 red cells, with white cells 1:50, mostly polynuclear. In Dec. '92, the red cells were 2,571,000, no leucocytosis. In June '93, there was effusion into left pleura, and the patient died in orthopnœa At the autopsy body was emaciated, and showed (arsenical?) pigmentation of skin. The trachea surrounded by a cluster of enlarged glands as big as a fœtal head. Lumen of trachea compressed to a mere chink and mucosa eroded.

Some of the glands presented softened centres. Retro-peritonial and pelvic glands enlarged to masses of considerable size. Spleen three times normal size. Growth infiltrated lower lobe of left lung. Six secondary nodules in right lung. Bone marrow of ribs and sternum grayish red. The seven years' duration of the case was remarkable. In 50 cases tabulated by Gowers only one exceeded 5 years. Osler gives the duration as from 3 to 4 months to as many years. Possibly the continued use of arsenic had lengthened life.

Stated Meeting, Nov. 3rd, 1893.

James Bell, M.D., President, in the Chair.

Drs. G. A. Berwick and J. T. Reid were elected members of the Society.

Removal of Gasserian Ganglion for facial neuralgia—Dr. James Bell exhibited a woman upon whom he had performed this operation for intractable facial neuralgia. Krause's operation was performed, an incision being made from the external angular process to point in front of the tragus of the ear. The zygoma was removed with bone forceps. In trephining the skull the middle meningeal artery was seized. It ran in a foramen, and therefore some bone had to be chipped away. The dura was separated from the bone down to the petrous region, the brain being held away with the finger. The second and third branches of the fifth nerve were divided at the foramina, and reflected backward with the Gasserian ganglion till the trunk of the nerve could be cut and the ganglion and attached nerves dragged away with the forceps. To familiarize himself with the operation he had practised it on the cadaver. The risks of operation were (1) wounding the adjacent vessels and (2) trophic changes in the eye-ball. To avoid the latter the eyelids were sutured for a few days. Except for loss of power of the temporal muscle, paralysis of one side of the face, and slight giddiness lasting a few weeks there were no bad symptoms, and she had been free of pain since the operation. Previously the nerve had been stretched without any relief being obtained. In the operation known as "Rose's" the foramen ovale is approached from the base of the skull by an incision over the parotid region. This operation

is more difficult. Five cases are reported by Mr. Rose and six are reported of Krause's operation—which should really be called Hartley's operation, Hartley, of New York, being the first to perform it. It was too early to judge fully of the results, but cases were reported free of pain after 22 months where stretching and external neurotomy had failed.

Discussion—Dr. STEWART had seen the patient and regarded medical treatment as useless. The pain was intense and had been worse since the stretching. It was hard to say whether the cure would be permanent.

Dr. MILLS thought that from the important nerves involved the dizziness noted might be owing to the operation.

Dr. LAPTHORN SMITH had found benefit result from constitutional treatment by iron and tonics in cases of tic.

Dr. BELL, in reply to Dr. Mills, said that dizziness is common in persons confined to bed after any operation.

Sub-diaphragmatic abscess—Dr. ADAMI related a case of this nature due to suppuration around a cancer of the lower part of the œsophagus (To be published in March number.)

Papillomatous Cyst of the Ovary—Ovario-Hysterectomy—Dr. LAPTHORN SMITH showed this specimen which he had removed from Mrs. E., aged 30. Enlargement of the abdomen was first noticed by her husband on their wedding day, and wrongly attributed to pregnancy. Examination showed that the uterus was not enlarged, but that the whole of the pelvis was occupied by a large cystic tumour. After a few weeks preparatory treatment, laparotomy was performed in Oct. 4th, 1893. The lower part of the cyst was adherent to the Douglas fossa. The uterus was removed with the tumour at the level of the internal os. The abdomen was flushed with water at 100° F., and drainage tube inserted. The patient made an excellent recovery. The tumour is a multilocular cyst of the left ovary, the inner surface covered with warty growths. Both ovaries and uterus closely adherent and line of separation is difficult to determine. Fallopian tubes were free.

Dr. WYATT JOHNSTON showed the inferior maxilla of a drowned woman pronounced by coroner's jury to be a girl of 18, missing for some months, and was claimed as identified by an article of jewelry. The wisdom teeth in this case were fully developed and corresponded with those of persons thirty years

of age. A malformation of the bicuspids described in the missing girl was also present in the specimen, but it was in all probability a case of mistaken identity in spite of the coincidence of the jewelry and malformation of the teeth.

Saline enemata in post-partum hæmorrhage—Dr. JOHN A. HUTCHINSON related the case, which appears on page 573 of this number of this JOURNAL.

Hibernation and allied states in Animals and Man—Dr. MILLS read a paper on the subject, published in the Transactions of the Royal Society of Canada, 1892, Section IV, page 49.

Besides studying cold-blooded animals and bats, Dr. Mills had made observations extending over a period of five years on woodchucks, one of which presented a drowsy or torpid condition from November to April, independently of conditions of food and warmth. Another woodchuck did not hibernate at all even when kept in the cold. Three remarkable instances of profound lethargy in the human subject were also studied under the direction of Dr. Mills. One of these, known as Sleepy Joe, aged 60, would sleep for weeks at a time, waking only to take food and void his excretions. Another case, that of John T., of a neurotic family, had been the subject of melancholia. For the past 20 years he remained in a somnolent condition from September to June in each year. His temperature was observed to be 96° on one occasion. Once he was aroused by application of an electric battery, but subsequently this failed to disturb him. The third case was studied with Dr. Clark, of Kingston Asylum. The patient, a woman of over 60, was lethargic for nearly 20 years. Appetite was usually good. The urine contained one-third the normal amount of phosphates. An autopsy was obtained, the brain being found healthy. The lungs contained tubercles.

The discussion upon this paper was postponed till the next meeting.

Stated Meeting, Nov. 17th, 1893.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Dr. George Villeneuve and Dr. R. Tait Mackenzie were elected members.

Pyloroplasty—Dr. SHEPHERD exhibited a patient from the Montreal General Hospital, upon whom he had performed

pyloroplasty in July last. A diagnosis of dilatation of the stomach with stenosis of the pylorus had been made by Dr. Wilkins. There was a history of stomach trouble for 15 years, consisting in recurrent attacks of gastritis lasting from two weeks to two months, with occasional vomiting of blood; between these attacks he enjoyed fair health. Three months before entering hospital he had an attack of gastritis which was not recovered from as usual, the stomach having apparently lost the power of passing solid food on to the duodenum, so that liquid food only could be employed; after a time this was also rejected, vomiting occurring in enormous quantities at intervals of two to three days. On entering hospital he weighed only 119 pounds. Dr. Shepherd performed the Heinicke-Mikulicz operation of resecting the scar tissue about the duodenum and bringing together the healthy tissues of the duodenum and stomach, rather than the Italian or Loretti operation of forcibly dilating the pyloric orifice. At the operation the pylorus was involved in a huge fibrous mass, looking like scirrhus, the orifice being too much constricted to admit the point of the little finger. For six days after the operation the man was fed by the bowel; afterwards fluid nourishment was allowed by the mouth and a few days later he was allowed ordinary diet, but cautioned against excess. His weight was now 179 lbs., or a gain of 60 lbs. from the time of entering hospital. The pylorus appeared to be acting normally. No vomiting had occurred since the operation. The highest temperature observed was 99⅗. Before operation the stomach was repeatedly washed out with boracic lotion, as salcilic lotion was considered dangerous.

Discussion – Dr. Wilkins said that while under his care the patient had not improved on a peptonized diet. He had satisfied himself that the disease was non-malignant and was due simply to the cicatrization of an ulcer. This diagnosis has been confirmed by the increase in weight since the operation. He congratulated Dr. Shepherd on the result.

Dr. Wesley Mills said the persistence of vomiting showed that anti-peristalsis of the stomach took place. The history did not clearly show whether the increase in weight was due to increased ingestion of food or improved powers of absorption.

Carcinoma of the sudoriparous glands—Dr. C. F. Martin showed this specimen (see page 605 of the Journal.)

Dr. Adami stated that the tumour had at first been regarded by Dr. Roddick as an enlarged sebaceous gland. Subsequently a diagnosis of epithelioma was made. He had recently shown an analogous case, when what looked like an epithelioma of the tongue proved to be a scirrhus arising from some of the muciparous glands of that organ.

Chronic abscess of bone—Dr. Adami showed a knee joint resected by Dr. Armstrong at the Montreal General Hospital during the past summer. The patient apparently recovered, but sinuses formed and kept on discharging in increasing quantities. The man became emaciated. Amputation was performed by Dr. Sutherland two weeks ago. Union was pretty well advanced, but was entirely fibrous in nature. There was still a slight movement between the bones. On making a section a number of small abscesses connecting with one another were found situated in the lower extremity of the femur and connected with the region between the two bones from whence they discharged. No tubercle bacilli were found. The condition appeared to be one of chronic suppuration. The question was whether these abscesses were the result of old foci of disease not detected at the time of operation.

Dr. Armstrong stated that the patient, a lumberman about 35 years of age, had sustained some slight injury of the joint, but was able to continue work for about six months. The joint was then found swollen and painful and evidently extensively diseased. Immobilization of the limb was tried without benefit, and so Dr. Fenwick's excision operation was performed. Some sinuses which persisted were scraped under ether two or three times, without benefit. He was surprised to learn that no tubercle was found, as at the time of excision the joint had all the naked eye appearances of tuberculous disease.

Dr. Bell suggested the possibility of the condition being originally tuberculous, the bacilli having subsequently become destroyed. He was of opinion that the abscesses were there at the time of operation, but did not communicate with the joint. All surgeons know that when a thin slice is sawn off the end of a bone little foci of disease are noticed in the new surface exposed. Had always thought it strange that more of

these little pockets did not lie higher up in the bone; in this case it looked as if they had.

Dr. SHEPHERD thought that the abscesses were present at the time of operation. The pain, at the time, was much more severe than seemed called for by the extent of the joint disease.

Tuberculosis of the Liver and Oviduct of a pigeon—Dr. WESLEY MILLS exhibited the specimen, showing what extensive disease could exist in domestic animals in apparent good health. The bird seemed quite well till a few days before its death.

The discussion was postponed pending a report from the pathologist.

Pyosalpinx and Gonorrhœal Arthritis—Dr. LAPTHORN SMITH exhibited a specimen of double pyosalpinx in a woman aged 42, suffering from gonorrhœal rheumatism of the right knee joint. The patient had been ill ever since her marriage, 10 years before. Examination showed the uterine appendages filling Douglas pouch and forming a tender fluctuating mass the size of an orange. While in hospital preparatory to operation in June, 1893, she suddenly developed high fever, swelling of the first joint of the right fore-finger and scalding in micturition. Next day the right knee became swollen and painful. There was a yellow purulent discharge from the urethra and vulva vaginal glands. Exploratory puncture of the knee joint yielded an opalescent serum. This was not examined for gonococci. After seven weeks the joint was still stiff and painful. Temperature then normal. In October, 1893, cœliotomy was done and the appendages removed. The tubes were found distended with pus and closely adherent. Recovery was good. The operation seemed to improve the condition of the knee joint. The husband admitted having recurrent attacks of gonorrhœa, the last occurring shortly before the wife developed the above mentioned arthritic attack. The gonorrhœal infection probably affected the parmchyma of the uterus which should really have been extirpated. The pathology and treatment of gonorrhœal rheumatism was then discussed by Dr. Smith.

Dr. ALLOWAY said he differed from Dr. Smith as regards the interpretation of the metastasis. He thought the disease of the knee joint not gonorrhœal, but pyæmic, and that the sub-

sequent occurrence of inflammation in the finger joints confirmed this view. He had seen several times, metastasis of this nature following pelvic disease. In one case seen with Dr. Shepherd, where there was suppuration of both knee joints, the remains of a necrotic placenta were found in the uterus. On scraping the uterus the patient recovered. He did not think the joint disease in Dr. Smith's case was due to the gonococcus.

Dr. SMITH in reply stated that if his case had been pyæmic, pus would have been found in the joint, instead of only an opalescent fluid. He had himself thought of pyæmia, but the fact of the pus tubes having been there for ten years without any metastasis, and the knee affection appearing after an attack of gonorrhœa made him change his opinion.

Discussion on Dr. Mills' paper on Hibernation—Dr. F. W CAMPBELL mentioned a case of duodenal ulcer where the subjective symptoms had disappeared under the mental condition induced by a favourable (though wrong) diagnosis being given and had returned again only when the correctness of the diagnosis was insisted upon. The diagnosis was confirmed by autopsy. The mental condition seemed to determine whether pain, etc., was felt or not.

Dr. GIRDWOOD told of the doings of two woodchucks formerly in his possession. These animals did not hibernate.

Dr. ADAMI asked if Dr. Mills had tried the experiment of feeding the animals abundantly.

Dr. MILLS, in reply, stated that he had not been able to prevent hibernation by good feeding. He referred to some interesting work by Carlier on the histology of the hedge-hog, showing that the tissues during hibernation differed from these in the normal state in the following particulars:—(1) They were less readily acted on by nuclear stains. (2) The cells were smaller. (3) The leucocytes of the blood were diminished in number. This latter point would, theoretically, make the animal more susceptible to infection than when not hibernating. His object in making these studies was to see if a general law of relation could be established between hibernation and sleep. It was possible that primæval animals lived in a state analogous to hibernation.

Statistics of Homicide in American cities—Dr. WYATT JOHN-

STON who read a paper on this subject, had found the annual number of homicides (including manslaughter and infanticide) per 10,000 living to be approximately as follows: Central District of London, .15; Vienna, .18; Paris, .19; Philadelphia and Liverpool, .22; Montreal, .24; Buffalo, .33; New York, .35; Boston, .43; Toronto, .50; Pittsburg, .51; Chicago, .65; Cleveland, .66; Birmingham, .89; St. Louis, 1.38; Louisville, 1.58; Charleston, 2.00. These estimates were based on the findings of inquests, not of trials. The greater proportion of homicides occurred in the Southern States, where a large and lawless negro element existed and where concealed weapons were habitually carried. The apparent low homicide rate in great European cities was a matter of surprise. The low rate in Montreal might be due to the peaceable character of the people and the absence of concealed weapons rather than to cases being overlooked, as in other cities the majority of homicides were from such easily recognized causes as cuts, blows and stabs. Abortion and poisoning were forms likely to be overlooked, and a proper system of death certification would be a great check upon homicides of this kind. In Boston a system of investigation of all deaths from peritonitis in all women of the child bearing age had led to the detection of many cases of abortion previously unnoticed.

Mr. QUINN, Q.C., Crown Prosecutor, who was present, said he thought the composition of coroners' juries in various places would tend to affect the statistics. A low status of jury would lessen the number of homicide verdicts. Montreal juries rarely gave a verdict in accordance with the evidence. In the case of large cities like London, many homicides probably occurred when the bodies were never found, and this might partly explain the apparently low proportion. The means of concealing crime increased with the population. He had reason to believe that abortion is more common in Montreal than was supposed. The criminal death rate reported in Montreal was not the true one. All deaths should be reported to the health office, and, unless properly accounted for, the matter should be placed in the hands of a medical office thorough medico-legal investigation.

Dr. GIRDWOOD agreed with Mr. Quinn, as to death certification. In the Hooper case, a certificate was obtained from a

physician who knew nothing about the woman or the death. No medical man should give a certificate unless he had seen the person during life and had made some diagnosis.

Dr. SHEPHERD believed that many cases reported as still-birth were really cases of infanticide.

Death Certification—The Secretary read a communication from Dr. LABERGE, city health officer, asking for the co-operation of the Society in securing an amendment to the city charter in the matter of certification.

Dr. LABERGE's letter pointed out that a death certificate could be given by any relative or friend of the deceased, practically by any one at all. It was essential that these certificates should only be signed by properly qualified medical men, and that the matter of deciding whether the qualifications of the signer were satisfactory and the certificate properly made out as regards nosology, should left to competent persons, instead of as at present, to superintendents of cemeteries, whose education hardly fitted them for these important duties.

Upon motion of Dr. F. W. CAMPBELL, it was resolved to refer the matter to the council of the Society, and such other persons as the council might select with power to give Dr. Laberge such advice and assistance as seemed necessary.

Stated Meeting, December 1st, 1893.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Insular Sclerosis—Dr. JAMES STEWART exhibited a boy and a girl, the subjects of insular sclerosis. (The cases will be published in a future number of the Journal.)

Discussion—Dr. SMITH asked if there was any family history of syphilis, which might explain both the sclerosis and optic atrophy.

Dr. BELL asked if the disease usually occurred in families.

Dr. STEWART, in reply, said there was no history of syphilis obtainable. Syphilis, as far as we know, has no connection with insular sclerosis. White atrophy of the optic nerve is simply a wasting of the axis cylinder and not like atrophy

following inflammation. Only two instances are recorded where two brothers were affected with insular sclerosis.

Ureter vs. Appendix—Dr. Smith exhibited the patient from whom he had removed last spring what was thought at the time to be the ureter, but which proved to be the appendix vermiformis. The patient was in perfect health, whatever had or had not been removed.

Reform in Coroner Law—Dr. Girdwood presented the report of the special committee appointed to consider this subject. The committee considered that the present moment was not an opportune one for bringing the matter before the notice of the Provincial Government.

After some discussion it was decided that the committee be requested to prepare a report and present it at the following meeting of the Society.

Fibro-Cystic Tumour of the Uterus—Dr. Smith exhibited the specimen. In October, 1893, amputation had been done at the level of the internal os. There had been a local peritonitis some months ago. The operation presented no difficulties. The abdomen was not flushed out after operation, contrary to his usual practice. Two days after the operation acute septi-chæmia developed and the patient died the following day. An autopsy showed great distention of the stomach and intestines and Dr. Smith himself subsequently had a severe septic inflammation beginning in the hair follicles of the back of the hand, although no abrasion could be seen. The lesson of the case was always to flush out the abdomen after operation.

Dr. Shepherd said that few surgeons flush out the abdomen now-a-days, and he did not himself consider it necessary.

Rupture of the Kidney—Dr. Wyatt Johnston showed two specimens of ruptured kidney. One was in a case where an old woman was found dead. There were a few bruises about the head and arms, but no serious external signs of violence. A verdict of manslaughter had been rendered, but the grand jury found a No Bill. It was supposed that the injury was due to the deceased having been maltreated by her son. In the second case the rupture was caused by a beam falling across the loins of the deceased. A diagnosis of ruptured kidney was made during life by Dr. Sutherland, as an area of dulness extended to the umbilicus from the right flank

and the urine contained blood. In this case the injured organ was very large, the other kidney being so small that it was not discovered at the autopsy, although the ureter could be traced for some inches from the bladder.

Operation for Gall Stones—Dr. SHEPHERD showed a phial containing over 500 gall stones, which he had removed three days before from a woman aged 50. She had suffered for many years and recently had shown signs of peritonitis. An exploratory incision showed a tense gall bladder, which on puncture contained sour pus and was packed with gall stones, which were removed with a dinner spoon, after protecting the surrounding tissues by packing them with sponges. As the gall bladder could not be brought to the opening, the omentum was stitched to it so as to form a channel for the bile, of which much was passed.

Case of Epilepsy—Dr. E. P. WILLIAMS read a report of this case which occurred in a young man 21 years of age. Father and mother gouty, brothers and sisters healthy. When 2 years old had a convulsive seizure followed by transient left hemiplegia Following this, slight convulsive seizures occurred about once a week preceeded and followed by mental dulness. At 8 years was for a number of days unable to eat or swallow. At 10 years the attacks were preceded by an aura like epigastric fulness and he would fall down. At 18 years the frequency of the fits increased to one or two every third or fourth day. Grasping his wrists would sometimes stop an attack. Nitrite of amyl or ammonia inhalations some etimes had the same result. Bromide treatment was continued from the 10th to the 21st year. In Feb. 1893, he had a moderately severe attack of typhoid, during which and until March 15, one week after the fever subsided no fits occurred. (No bromide was taken during the fever.) During convalescence he had mild fits at first frequent, afterwards at long intervals, until August, when the fits reappeared at first severe and infrequent, afterwards milder and at the rate of 20 per month. The general health and mental condition remain good.

Discussion—Dr. MILLS said that the so-called motor area would soon be regarded as a reflex or sensori-motor area. The fact that the fits could be arrested by seizing the wrist was in favour of this view.

Dr. F. W. Campbell said opinions varied as to what constituted large doses of bromide. He knew a man who had been taking drachm doses three times daily for 25 years with benefit. He thought nitro-glycerine might be of service.

Dr. Williams, in reply, said that nitro-glycerine had been tried for some years in this case, but had no apparent effect.

College of Physicians and Surgeons, Quebec—Dr. J. H. B. Allan complained that it was impossible to get a statement of account or a receipt from the college, and that about a year ago the accounts had been sent out in an offensive manner upon post cards.

Dr. F. W. Campbell thought that the irregularities were due to the action of ths former secretary.

Stated Meeting, December 15th, 1893.

James Bell, M.D., President, in the Chair.

Dr. A. G. A. Ricard, was elected an ordinary member of the society.

Tabes without absence of Knee-jerk.—Dr. Finley exhibited a man who had suffered for some years from attacks of vomiting, with extreme pain in epigastrium. He also had severe pains in lower extremities usually alternating from one side to the other, and pains over forehead and trunk, described as "just like lightning." There was diminution of sexual power. No ataxia, but slight muscular weakness. The knee reflexes were exaggerated on both sides. The pupils are slightly uneven and showed Argyle Robertson reaction. There was no mental disturbance.

Dr. Jas. Bell thought that the cord area involved could not be that usually affected. Was it right to speak of the disease as ataxia where none existed. A patient who came to him recently, under the impression that he was suffering from stone in the bladder, presented all the symptoms of tabes.

Dr. Finley in reply said the disease was probably in the pre-ataxic stage. The Argyle Robertson pupils and lightning

pains made it difficult to arrive at any other diagnosis. There was no history of syphilis obtainable.

Congenital Polypoid growth of Conjunctiva.—Drs. Buller and Adami. The specimen was taken from the occular conjunctiva of the left eyeball in a child 3 months old, and had existed since birth. These growths occur either as low white circular swellings invading the corneal margin or as an irregular mass, springing from the sclerotic between the cornea and the outer canthus. The present growth apparently was of the latter, or scleral, variety. Its attachment to the eyeball was by means of a thick expansion extending slightly into the cornea. The growth was removed with as little disturbance as possible of the surrounding tissue. When the patient was removed a few days later the eye had a satisfactory appearance. The specimen showed under the microscope a well formed epithelium, with corium and subcutaneous tissue. This tissue was loose in the centre and showed a cystic space. The epithelium showed spiral and coiled glands, resembling sweat glands rather than those of conjunctiva. The subcutaneous tissue showed well formed vessels, with fibrous tissue and what appeared to be degenerated muscle fibres. It corresponded therefore rather with the tissues of the outer surface of the eyelid than the conjunctiva, but was of too simple a nature to be classed as a true dermoid.

Discussion.—Dr. Proudfoot said tumours of this kind were commonly attached to the margin of the cornea. Recently in a case treated for some time by the family physician for conjunctivitis he had found a polypus lying beneath the eyelid. Polypi sometimes followed injury in operation of the conjunctiva.

Small pedunculated polyp from the left tonsil.—Drs. Birkett and Adami. The tumour was taken from a child 4 months old, and was exhibited owing to the rarity of tonsillar tumours. It was about the size of a pea, and consisted microscopically of a superficial layer of flattened epithelium with subepithetal connective tissue, beneath which were a series of glandular alveoli, separated by fibrous septa. The gland tissue is that of typical mucous glands and shows no adenomatous over-growth. No excretory ducts were made out. This class of tumour had been frequently described in the soft palate. Growths of the

tonsil of any kind were rare, lymphoid fibrous, myomatous, myxomatous or fatty being the usual forms. Epithelioma was more frequent than sarcoma. The present growth was benign.

Mixed Carcinoma and Sarcoma of the Peritoneum.—Dr. Adami showed the specimen from a man who died of peritonitis. At the autopsy an enormously enlarged omentum was found. The mesentery was also involved, but the intestinal tube seemed unaffected except that the coils were matted from inflammation. The diaphragm was thickened and infiltrated with new growth, which had extended to the pleural surface and set up a severe pleurisy. The pleural cavities contained 9 pints of yellow fluid. Pericardium and lungs free. Death was apparently due to pressure on the heart. Microscopical examination showed the growth to be sarcomatous for the most part, but in places there were definite fibrous alveoli, containing solid masses of epithelial cells, in other words typical scirrhus cancer. There was therefore a combination of cancer and sarcoma. The man was not emaciated, and had almost no disturbance of health up to the time of the acute peritonitis and pleurisy, which caused his death.

Dr. Jas. Bell, gave the following history:—On Oct. 12th, 1893, the man was suddenly taken at night with severe abdominal pain. One week later he was admitted to the General Hospital and a diagnosis of acute peritonitis made. Some evidence of an abdominal growth caused his transfer to the surgical ward, where an explanatory abdominal incision was made, but, as the case was unsuitable for operation, the wound was closed. The patient died next day. Dr. Bell thought the sarcomatous looking tissue referred to might possibly be an early embryonic stage of the fibrous tissue of the cancer's stroma.

Dr. Adami, in reply said, that conditions of carcinoma sarcomatodes were described by pathologists, when the stroma was sarcomatous and the alveolar contents epithelial. In the present case there was no primary growth in any organ where epithelium would normally exist.

Dr. Finley, said there was a history of a small growth having been thrice removed from the inside of the nose in the present case.

Dr. Jas. Bell. That point had been investigated in hospital, but it appeared that the nose was only touched with caustic.

Double Hydronephrosis.—Dr. C. F. Martin, exhibited the kidneys and bladder of a man who entered hospital with symptoms of chronic renal disease, and died two months later with uraemic coma. There was moderate double hydrone phrosis and dilatation of the ureters. The cause of the hydronephrosis appeare l to be a mass of inflammatory fibrous tissue external to the bladder, in the region of the trigone, near the point of entrance of the ureters. This was most marked on the left side. There were also numerous constrictions in the course of the ureters. The left testicle had been removed and there was a large sinus in the left ischio-rectal fossa.

Dr. Johnston thought the ingenious explanation offered by Dr. Martin to be correct.

Dr. Adami said that the statistics of hydronephrosis, showed that many cases were recorded when the cause was not explained. Had the dissection made by Dr. Martin in this case been more frequently practised perhaps there would not be so many mysterious cases on record.

Oxalate of Lime Calculi from the Kidneys.—Dr. Jas. Bell, showed some large stellate prickly crystals, apparently oxalate of lime, removed from a cyst in the kidney of a patient who had no renal symptoms whatever.

Semi lunar Cartilage.—Dr. Jas. Bell also exhibited a portion of an inner semi lunar cartilage removed from the knee of a man, who had sprained his knee when jumping from a carriage. The joint was locked for a time, but afterwards became normal, until a severe exertion once more displaced the cartilage, and the joint was replaced with difficulty. A few days later, while demonstrating how the accident occurred, the joint again became fixed and could not be reduced. The cartilage was therefore removed. It was evident at the operation that it would be impossible to keep the joint in place. Cases have been recorded where the joints have been permanently and satisfactorily reduced after being out for some years.

Enucleation of Thyroid Tumour.—Dr Jas. Bell showed a small fibo-cystic tumour removed from the thyroid and empha-

sized the advantages of enucleation as contrasted with extirpation of the thyroid.

Reform of the Coroner Law.—Dr. Adami read the report of the committee upon this subject, (published at page 508, of the Journal).

Dr. Bell thought the committee had acted wisely in not undertaking to pronounce upon the legal side of the question. Upon motion of Dr. Girdwood it was unanimously resolved that the report be adopted and that copies be sent to the Attorney General, and the medical members of the Legislative Assembly and Council at Quebec.

Blood supply of vermiform appendix.—Dr. Bell showed for Dr. Shepherd a preparation showing that the arterial supply of the appendix was due to a single artery which did not anastomose with any neighbouring vessel, hence the readiness with which sloughing is produced in the appendix.

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THE LESSON OF THE HOOPER TRIAL.

If the trial of Hooper on the charge of murdering his wife by the administration of prussic acid has failed to establish his guilt, it has at least taught one great lesson, namely, that the present method of dealing with cases of suspicious death is radically wrong, so far as the calling in of medical aid by the Crown is concerned. Every one must freely agree that in this case there was established by the prosecution a wonderful chain of evidence, each link of that chain going to prove that the prisoner had deliberately arranged to remove his insane wife, and thus leave himself free to marry another woman, and all the circumstantial evidence seemed of such a kind that it was difficult to see what defence could have been brought in rebuttal of a charge of attempted murder. Nay more, the established movements of Hooper, the purchase of prussic acid, the carefully arranged transport in the baggage car, the whole circumstances surrounding the actual death of his wife, are difficult to explain otherwise than on the assumption that he was planning a further attempt on her life. Yet despite all this circumstantial evidence the jury brought in a verdict of "not guilty," and in our opinion they did rightly; they had no option, and if it be asked why no other course was open to them, the answer must be that however ably the crown proved the intent to murder, however clearly they established the moral guilt of the man, legally they failed notoriously to establish their charge; the evidence brought forward could not prove that prussic acid had been

administered, it could not be shown that the death of Mrs. Hooper was due to this cause, and this alone, and so long as what may be termed a working possibility of death from natural causes could not be excluded, so long was it impossible to obtain a death sentence.

It is evident, therefore, that the fate of Hooper depended upon the medical evidence that could be brought forward ; that this evidence made the case. If the Crown could not establish the act of administration of the poison, the culpability of the accused could only be determined absolutely by a study of the symptoms presented by the dying woman, by the conditions revealed at the autopsy and by the results of chemical analysis. And here comes in the most remarkable state of affairs. For three months the crown had been in possession of all the facts bearing upon the medical side of the case. Since the beginning of October, it had possession of the depositions of those who saw the death of the woman ; it had the report of the physicians who made the autopsy, and the report of the able chemist to whom was given the analysis of the stomach and other organs. It had, in fact, been in full possession of all the material upon which medical judgment could be given, and having all this, it determined to indict Hooper on the charge of murder. Yet when the case came into court, it was the evidence of the crown experts that showed conclusively that the charge could not be sustained ; proved it so conclusively that the defence did not bring forward a single expert to testify concerning either the interpretation of the symptoms, or of the post-mortem appearances. The solitary piece of professional evidence adduced by the defence was the fact, proved by experiment, that small but fatal doses of prussic acid are capable of being detected in the stomach and other organs of large dogs after an interval of a fortnight.

If Dr. Stewart could state freely in the witness box that other forms of death might be accompanied by similar symptoms ; if Dr. Douglass, who performed the autopsy, could admit that the examination of certain organs had not been complete and did not exclude the possibility of lesions, capable of leading to

sudden death, being present in those organs ; if Professor Ellis could only conclude from his failure to discover any trace of the poison, that its absence made death from this cause possible but improbable, surely the law officers of the Crown charged with conducting the case ought to have known these opinions of their experts long ago, they ought to have recognized that evidence of such a nature completely destroyed their case. And the question is, why did they persist in their charge ?

Two answers may be given to this question. Either they disregarded the fact that conviction depended upon the strength of the medical evidence that they could adduce,—that the gist of the case lay in the statements of their experts,—or they had neglected to consult those experts properly as to their opinion and the admissions they would necessarily have to make upon cross-examination. Probably both of these answers contain a large amount of truth. It is but natural that lawyers should fail to appreciate the value of medical testimony, and should be specially prone to overlook it when they are in possession of a rich supply of circumstantial evidence. This, however, is scarcely an excuse. And with regard to the experts, we believe that we state the matter correctly, when we say that there was no consultation with them until after the indictment had been drawn out, and then, doubtless, the endeavours of the crown officers were not to discover so much what their experts had to say against the charge, as what they could adduce in favour of the prosecution.

Herein, it seems to us, lies the terrible weakness of the present method of procedure ; a weakness that has cost the province not thousands, but tens of thousands of dollars. Without consultation with any leading members of the medical profession, the law officers of the case determined to continue with a charge, in which the medical aspects were all important, a charge which any impartial physician, given the depositions at the coroner's court and acquainted with the facts of the case, must have reported as being incapable of being sustained.

It is a matter of urgent necessity, therefore, that some change should take place in the method of procedure in this respect.

We would not at this moment go so far as to say that there should be established an official board of experts, who should advise as to the strength or weakness of the medical and scientific evidence in connection with any suggested criminal charge brought against an individual, but we would urge that in future the Crown should nominate or seek the advice of two or three responsible professional men who should report upon the value of the evidence and its interpretation. Experts so nominated would be in a thoroughly impartial position, their duties would not be to lean either to the one side or the other, but to seek out the truth, to get to the bottom of the case, and to report their conclusions to the Crown, leaving it to the Crown to act upon their report. In short, to illustrate what we mean, the admirable and impartial evidence given by the crown experts, by Dr. Stewart, Dr. Douglass and Professor Ellis in examination and cross-examination ought to have been in the hands of the crown officials before ever there was a thought of drawing out an indictment against Hooper, and we may add that the Crown, with plenty of time before it, rather than the defence, should have initiated experiments to determine the conditions under which a poison, such as prussic acid, is discoverable or tends to disappear in the decomposing animal body.

If we feel bound to urge these matters, there is a further point in connection with medico-legal enquiries which this trial brings prominently forward and which we must insist upon even more strongly, and that is the inadequacy of the present coroner's system of this and the neighbouring province to deal with cases of sudden and suspicious death. Every case of sudden death ought to be the subject of immediate investigation, we will not say necessarily by the coroner and his jury, but by a medical man of good standing, who should advise as to the necessity of holding an inquest. Here it is not impossible that the contention of the prosecuting counsel was true, and that the eleven days which elapsed before anything was done were sufficient to destroy all traces of the poison. This very contention is an admission on the part of the crown that the

autopsy and analysis should have been made at an earlier date. Under no conditions ought Hooper to have been allowed to remove the body of the deceased from Terrebonne into the next province, without there being an official enquiry made as to the cause of death.

And when at last, at Hooper's instigation, be it said, an inquest was held, the proceedings thereat reveal another weak point that must be removed. We refer to the conduct of the autopsy. According to the present law the coroner can call upon any physician to perform this. In this case he called upon a practitioner of conspicuous ability, as was shown during the long examination to which he was subjected, but one who had not been accustomed to perform autopsies in cases of moment, who consequently neglected to make a detailed examination of those very tissues whose study is most important in cases of sudden death from unknown causes. Lesions of the vascular system, and especially of the heart, are the most common cause of sudden deaths. But the coronary vessels were not examined thoroughly, the heart muscle was not minutely studied, the vessels of the lungs and brains were not cut up and examined to exclude the possibility of recent emboli. And this is all the more annoying, inasmuch as the vascular system is the one which least of any is affected by post-mortem change. Lesions in the vessels can be recognized long after parenchymatous changes in the organs are completely blurred by putrefaction.

Surely the facts brought out by this trial point to the necessity for the appointment, not of private practitioners, but of official pathological experts to perform medico-legal autopsies.

One good effect of the Hooper trial will be to impress the public with the fact that after all, the popular opinion that prussic acid employed as a poison is most volatile, is not grounded upon fact. Had Hooper been found guilty, had the defence, and the crown experts, not brought forward prominently that prussic acid may be detected in the putrifying body weeks, and it may be months, after death, it is not improbable that prussic acid

would have been installed throughout North America as a most useful instrument in the hands of would-be homicides. There might have been an epidemic of cases of poisoning by this substance. We firmly believe that the evidence and verdict will have the useful effect of preventing anything of the kind. We mention this with relief, as not unfrequently after celebrated murder cases where some little known poison has been brought prominently into public notice, such epidemics have occurred.

CANADIAN MEDICAL ASSOCIATION.

A good many years ago it occurred to some of the members of the profession in the Dominion, that there should be a way of forming a closer bond of union among the doctors in all the provinces. With that object in view a medical conference was called, with delegates from each of the provinces, to consider the matter. They met in the hall of Laval University, Quebec, on Wednesday, Oct. 9th. Dr. James Arthur Sewell, President of the Quebec Medical Society, was in the chair. Dr. Alfred Belleau, acted as secretary.

After some preliminary business had been transacted, Dr. Wm. S. Harding, of St. John, N.B., moved, seconded by Dr. Wm. Marsden, of Quebec, Q., " That it is expedient for the medical profession of the Dominion of Canada to form a medical association, to be named the Canadian Medical Association."—Carried.

A nominating committee was appointed ; they brought in a report which, after some discussion, and one or two amendments, was adopted, the first officers of the association being :—

President—Hon. Charles Tupper, C.B., Halifax, N.S.

Vice-President for Quebec—Dr. Hector Peltier, Montreal, Q.

Vice-President for Nova Scotia—Dr. R. S. Black, Halifax.

Vice-President for New Brunswick—Dr. LeBaron Botsford, St. Johns.

Vice-President for Ontario—Dr. E. M. Hadder, Toronto.

General Secretary—Dr. Alfred G. Belleau, Quebec.

Local Secretary for Quebec—Dr. W. H. Hingston, Montreal.

Local Secretary for Nova Scotia—Dr. Jas. R. DeWolf, Halifax.

Local Secretary for New Brunswick—Dr. W. S. Harding, St. John.

Local Secretary for Ontario—Dr. Wm. Cunniff, Belleville.

Treasurer—Dr. Robert Henry Russell, Quebec.

Thus commenced an organization, the value of which cannot be now estimated by the profession of the Dominion.

Since then large and successful provincial societies have sprung up, and it has been thought that the work of the Canadian Medical Association had been completed.

Fortunately for the profession generally, this opinion has been held by but a limited number, and up to the present all attempts to curtail its usefulness have failed. During the last few years there has been much enthusiasm over the meetings, and the attendance has been large. Next year the meeting will be held in St. John, N.B., some time in September, and if united effort can do anything, the members of the profession in the Maritime Provinces intend to make this one of the most successful meetings the association has ever known.

ELEVENTH INTERNATIONAL MEDICAL CONGRESS.

A letter directed to the undersigned by the Secretary-General of the Eleventh International Medical Congress and dated December 19th, 1893, contains the following communications :

" American members will pay on the English, French and Italian railways single fares for double journeys, and will obtain a reduction of twenty per cent. on fares for Italian round-trip tickets.

" The documents required for their identification will be sent to you in January, and Americans intending to visit the Congress will have to apply to you for them.

" Full particulars concerning the journeys will accompany the documents.

" Messrs. Thos Cook and Son, London, Paris, Rome and Naples, should be applied to for accommodation and for tickets

for the excursions at Rome, Naples and to Sicily. Such excursions will be arranged at Rome under the guidance of Mr. Forbes, member of several scientific societies and correspondent of the *Times*—for Naples, three days, including Vesuvius, Pompey, Capri, Sorrento, Castellamare, Bajae, etc.—for Sicily, ten days from Naples, including Messina, Taormina, Catania, Girgenti, Siracusa, Palermo, and return to Naples.

" The fares for members of the Congress will be considerably reduced and comprise hotel accommodations, carriages, guides, boats, etc.—about 70 frcs. each, for the three days, and 285 frcs. for the ten days.

" Full particulars concerning these excursions will be contained in a leaflet to be added to the instructions and documents for the journey."

From former communications the following are herewith quoted: The members' fee is five dollars, that of their wives or adult relations two dollars each. Checks or money orders may be sent to Prof. L. Pagliani, Rome, Italy. Credentials have been promised in the near future. When they arrive (none were received last year), they may be too late for many who have started or are about to start. The undersigned, who is not informed of the cause of delay, proposes to supply in as official a form as he thinks he is justified in doing, credentials which are expected to be of some practical value. The North German Lloyd has promised to recognize them. It is suggested, besides, that a passport may increase the traveller's facilities.

Only the North German Lloyd (22 Bowling Green) and the Compagnie Generale Transatlantique (3 Bowling Green) have thought fit to grant any reductions to Congressists.

The reductions on Italian railways are available from March 1st to April 30th.

A. Jacobi, M.D.,
110 W. 34th Street, New York.

January 11th, 1894.

The following letter has been issued by the Provincial Board of Health, and as it is of considerable public importance, we reprint it :—

9th January, 1894.

My Dear Sir,—Small-pox is actually prevalent in ten States of the American Union, and even in great centres like New York, Chicago and Boston ; it has appeared also, a few days ago, in the Province of Ontario.

Under the circumstances and taking into consideration our direct and frequent intercourse with the infected localities, the introduction of the disease in this province is to be feared and all possible measures must be taken to prevent this calamity, especially such measures that would make it impossible for the disease to become epidemic.

For these reasons, the Board, knowing that it may depend on the most valuable help of the physicians throughout the province, ask each of them :

1st. To urge the immediate vaccination of all children and other persons in their practice, who have not already been vaccinated ;

2nd. To immediately notify the sanitary authorities should any case of small-pox come under their notice.

In complying with our request, you will help us to prevent the introduction of small-pox in your locality, and, what is most important, its becoming epidemic, should it eventually make its appearance.

I have the honor to be, Sir,

Your obedient servant,

Elzear Pelletier,

Secretary.

Obituary.

MR. PETER REDPATH.

McGill University has lost a good friend in the death of Mr. Peter Redpath. Mr. Redpath was born and educated in Montreal, and received his business training in Manchester. With his father he founded the firm of John Redpath & Son,

which has since developed into the Canada Sugar Refining Co. Of late years Mr. Redpath has lived in England, at Chiselhurst, where he died on February 1st, after a short illness. Although not resident in Montreal he never forgot his native city, and was still actively connected with many of its institutions, commercial, educational and benevolent. He was President of the Montreal General Hospital from 1875 to 1881, and for many years was a governor of the University, and his liberality has left a monument behind him in the Peter Redpath Museum and the Peter Redpath Library. He was also a director of the Bank of Montreal and a member of its London (Eng.) Committee, and he has, on occasion, represented the Montreal Board of Trade in England. He married a daughter of the late William Wood, of Bowdon, Lancashire, a noted philanthropist. To Mrs. Redpath we extend our deepest sympathy in her great loss.

Medical Items.

—The Rush Medical College, Chicago, has adopted a four years course.

—San Francisco has received a bequest of $6,500,000 to be used in founding and endowing a hospital.

—The truly great physician is one who never speaks ill of his medical brother. He is dead !—*Medical Record.*

—The Cæsarean operation was performed a short time ago, but as there was no baby, the jury assessed the operators $2,000 damages.—*Recorder.*

—At a meeting of the Faculty of Jefferson Medical College, Philadelphia, held on January 8th, 1894, it was unanimously resolved to institute a compulsory four years course, commencing with the session of 1895-96.

—The good effects of a compulsory law regarding vaccination are seen in the statistics of Prussia, in which country for six years prior to the enforcement of vaccination the deaths from small-pox averaged 85 per 100,000 of the inhabitants, while from 1875 to 1886, after the law came in force, the yearly average was but 2 per 100,000.

THE

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Original Communications.

THE CURATIVE EFFECT OF EXPLORATORY LAPAROTOMY.*

BY FRANCIS J. SHEPHERD, M.D., C.M.,

Professor of Anatomy McGill University, Surgeon to the Montreal General Hospital.

It has been known for years that in certain cases the mere performance of abdominal incision has some remarkable effects on growths and other conditions of the abdomen. This has been widely recognized especially in cases of tuberculosis of the peritoneum. In 1889, Mr. Lawson Tait (*Edinburgh Medical Jour.*), drew attention to the fact that certain diseases of the abdomen seem to yield to surgical treatment applied to them by accident, and that he had more than once seen tumours, often of large size, disappear after a mere exploratory incision. These cases he reported at the time, but his statements were not believed. The cases in which he had seen tumours disappear in this way were chiefly in connection with the liver, spleen and head of the pancreas. From the number of cases of this kind observed by him, Mr. Tait is satisfied that the disappearance is not a mere coincidence, but that the opening of the peritoneal cavity has a direct influence in setting up the process of absorption of the tumour. Every one knows that after the smallest wound of the peritoneum, an intense thirst is set up which lasts for some days, and that this thirst is not set up after

* Read before the Montreal Medico-Chirurgical Society, January 12th, 1894.

opening any other serous cavity, or in wounds of the abdomen where there is no injury of the peritoneum. Mr. Tait relates a number of remarkable cases in this paper. One case particularly deserves mention. A lady, æt. 54, had an abdominal section performed for supposed gall stones or possibly cancer of the liver. The liver was found covered with large hard nodules, one of which closely imitated the lump which had led to the diagnosis of distended gall bladder. The case had so much the appearance of malignant disease, that no hopes were given of her recovery. Contrary to expectation, however, the patient completely recovered, and was alive and well several years after. A number of other cases are also given. In no less than three out of four cases of greatly enlarged spleen, the tumour disappeared without more being done than opening the abdomen and examining the growth, and in one case of tumour of head of pancreas, with great emaciation, exploratory incision resulted in entire disappearance of the tumour in five or six weeks, and complete restoration to former health. In the case of supposed cancerous nodules of the liver, the evidence would have been much stronger had Mr. Tait excised a portion for microscopic examination. It is hard to believe that there was malignancy in any of the cases, but the fact remains that the gross clinical appearances were those of malignancy, and that the observers were skilled in recognizing the normal appearance of the organs. It is possible that some of the lesions may have been due to syphilis. In 1891, Dr. J. White, of Philadelphia, published in the *Annals of Surgery* an interesting and exhaus tive paper on the "Curative Effects of Operation *per se*," and came to the conclusion that epilepsy, certain abdominal tumours, peritoneal effusions, and also tubercle were benefited by these operations, and thought one of the possible factors was anæsthesia, also psychical influence, relief of tension and reflex action may enter into the therapeutics of these cases. He does not think accident or coincidence explains them.

Pierre Delbet (*Bull. de la Societé Alchemique de Paris*, Oct and Nov., 1892) reports the case of a child, œt. 2½ years, whose health had been failing for some months. On examina-

tion a large smooth, firm tumour was found on the right side of the abdomen, extending from the costal cartilages to the iliac fossa. The diagnosis of sarcoma or carcinoma of liver was made. An exploratory operation was performed, and the tumour was found to be an enlarged right lobe of the liver, pale in colour, with violaceous marblings. Enlarged glands were found in the hepatic omentum. Punctures were made but revealed nothing. The result was immediate and surprising; in three days the child regained appetite and cheerfulness, the liver rapidly decreased in size and returned to normal in two months. The character of the enlarged liver was revealed later, when syphilitic gummata appeared on forehead and scalp.

Dr. Wm. White, in the elaborate article in the *Annals of Surgery*, referred to above, cites many cases where exploratory abdominal incision relieved symptoms of pain, vomiting, &c., and also some cases of tumour, which shrank away after operation, although at the time the operator considered them malignant and gave a hopeless prognosis.

Prof. Von Mosetig, of Vienna, in 1888, showed a case where he had performed exploratory laparotomy some time before for a tumour which filled the whole pelvis; it was quite fixed, and removal was not attempted, so the wound was closed. To his surprise, when examined 14 days later, he found the tumour had shrunk to half its former size, and it continued to diminish, so that when shown to the Imperial Society of Physicians at Vienna, it was no larger than a man's fist. He thought the disappearance might be due to the intense hyperæmia observed during the operation; in the same way sometimes sarcomata may disappear under the influence of severe erysipelas. Cases also occur where, for a time, in malignant cases great improvement takes places as the result of exploration, but these cases always relapse and the patient soon succumbs.

In this connection I shall now relate a case of which I had personal experience. It is as follows :—

In October, 1891, I was consulted by Mrs. B., a nurse, æt. 28, spare in habit and of a sanguine temperament, for a tumour she had recently felt in the neighbourhood of the umbilicus.

She had always been healthy had been married and was the mother of one child æt. 8 years. Never had any miscarriage and no history of syphilis. No tuberculosis in family, never had any jaundice nor had she ever had anything like severe colic. For some time has not been feeling well and not up to her work ; has frequent elevations of temperature and occasional sweats ; her appetite good and there are no symptoms pointing to any affection of the stomach, no vomiting or dyspeptic symptoms.

Notes of Examination.—On examining her in the recumbent position a tumour the size of an orange is felt to the right and a little above the umbilicus. This tumour is smooth, very tender to the touch and moves with the respirations. It can be pushed to the left side, under left costal cartilage, and to the right apparently under the edge of the liver. In fact the tumour is very freely movable. Occasionally the tumour is very painful and it is always tender to the touch. I did not examine her again until Dec. 20th, as she had in the meantime gone about her nursing duties in the hospital, but these she soon found too much for her and she was compelled to take to her bed. Her temperature was carefully registered and she was closely observed. Her temperature was always 101° at night and 100° in the morning. Every other day she had a severe sweat. She said she felt more comfortable up than in bed, for then she had her corsets on, and these when tightly laced, kept the movable tumor in its place. On examining her waist a well marked line of constriction was seen to pass immediately above the tumour when it was in its normal position. It was thought that the tumour was caused by a lacing lobe of the liver, with probably an enlarged gall bladder beneath. Not getting any better, and being anxious to have something done, she consented to an exploratory incision.

Operation, Dec. 23rd, 1891.—An incision was made in the median line above the umbilicus, and the left lobe of the liver was immediately come down upon. On examination a portion of this lobe was seen to be quite abnormal in appearance and very definitely marked off from the healthy part by a distinct

line. This abnormal portion of the liver commenced at the great fissure where the round ligament entered, and extended upwards to a furrow, corresponding to a lacing furrow, and to the left it reached to the edge of the left lobe, where the lateral ligament leaves the liver. This portion was thick, somewhat puckered on its surface as if from cicatricial contraction. It was of a deeper color than the rest of the liver. A needle entered into the cicatrical part with difficulty, but in other parts no resistance was offered to the entrance of the needle. On holding the lobe between the finger and thumb well marked nodules, like masses of new growths, were felt. Adherent to this part of the liver were some portions of omentum. On removing these, the liver bled freely and hæmorrhage could only be stopped by application of the cautery, indeed this abnormal portion differed from the ordinary cirrhotic lacing lobe in that it was exceedingly vascular. There was some intention of removing this diseased portion of the liver, but it was decided not to do so, because the pedicle was so broad and the parts were so vascular, so the wound was closed.

The patient after operation had some pain for 24 hours and distension, but went on to an uneventful recovery. After the exploratory incision she had no more tenderness, and after the first day no more pain. Her sweating ceased and her temperature became absolutely normal. On examining her a few weeks after operation the tumour could still be felt, but it was immovable. She soon returned to her work and complained no more, in fact she was perfectly cured, and when last heard from, some short time ago, she was in perfect health and able to perform all her duties as superintendent of a hospital. The tumour disappeared within a year of the operation—or at least could not be felt.

Thinking the case might be of specific origin, I put her on Potassium Iodide for some time, which may have had something to do with the disappearance of the tumour.

No doubt the benefit derived from simple incision, without any other procedure, is due in many cases to the moral effect of the operation itself, or expectation, as in metallic therapy,

and this accounts for the marvellous cures reported as following the application of the new and extraordinary methods of treatment, such as faith cure, visits to shrines, laying on of hands, &c. Many of the diseases thus healed being those of the imagination are cured by imagination. Again, certain operations on the eye have relieved nervous symptoms and trephining the skull without further procedure has temporarily cured epilepsy. This would explain the disappearance of pain and tenderness after exploratory incision, but not the disappearance of tumours or alterations in temperature, so other causes must be looked for, such as those suggested by Dr. White, viz., relief of tension, reflex action, &c , or perhaps some causes working in ways mysterious, and of which we know nothing, but to which we give such names as *altered nutrition*, *trophic disturbance*, *nervous influence*, &c., &c. No doubt these cases in time will receive suitable explanation, but at present we are in the dark as regards them. In many cases such symptoms as pain and tenderness with general discomfort may be due to adhesions which at the time of the operation are released ; for instance in the case I reported above, the omentum was adherent to the liver, and its release may have banished the pain and tenderness. In many cases of nephralgia exploratory incision has caused relief. I myself have had several such cases, but in every case the kidney was more than usually movable, and now I think the explanation is generally accepted that in cases of nephralgia, where no calculus is found, the cause of the pain is due to twisting of the ureter of a more than usually movable kidney, and that operation tends to fix the kidney in place.

No doubt many of you here will be able to add to the cases I have narrated, and perhaps some of you may be able to explain them more satisfactorily than the reader of the paper.

CHRONIC INTERMITTENT LEUCHÆMIA (?) IN A CHILD.

By F. G. Finley, M.B., (Lon.) and M.D., (McGill).
Lecturer in Medicine, McGill University, and Physician to Mont. General Hospital.
AND
J. G. Adami, M.D.,
Professor of Pathology McGill University, Pathologist to Montreal General Hospital.

We venture to bring forward the present case not because we feel absolutely convinced as to the correctness of the diagnosis (though at the same time it is difficult to see what other diagnosis satisfies all the details of the case), but because it seems to us that the uncommon clinical history and the appearances discovered at the autopsy are worthy of being placed upon record. For the very full report of the case we are indebted to Dr. Mackenzie, house physician of the Montreal General Hospital.

S. D., a deaf mute, but nevertheless a bright and intelligent looking girl of eleven years of age, was born and lived till she was seven year old in California. The mother, who is a robust woman, has had four children and no miscarriages, the father is alive and has some pulmonary affection.

The third day after birth a large swelling formed under the left ear and advanced forward to the cheek. This was poulticed and discharged a large quantity of pus. She was a sickly infant and suffered much from colic. At eleven months old she had an attack of whooping cough ; when she was two years of age it was noticed that she could not hear. At four she suffered from measles, and at the onset of this attack occurred the first hæmorrhage, three cupfulls of blood being vomited. Next morning there was a slighter hæmatemesis, and after this her condition was very weakly. When she was seven years old she vomited up a tea cupful of blood without any premonitory symptoms, and without serious disturbance to her health. At eight she suffered a double rupture, for which she afterwards wore a truss. For the past five years her general health, if not robust, has been fair ; she has been able to drive the cattle on the farm, has had a good appetite, and has not suffered either from diarrhœa or from hæmorrhoids.

Recently she was admitted to the Mackay Institute and there learned to articulate a few words.

Upon December 30th last, she gave evidence of feeling unwell and spat up some mucus stained with blood ; later in the day, while in the housekeeper's arms, she brought up a large quantity of blood, estimated at about two quarts ; she became very faint. Saline enemata were given with good effect and she was confined to bed until January 1st, when she was admitted to the General Hospital under Dr. Finley.

Here her condition was found to be one of marked anæmia ; the

* Read before the Montreal Medico-Chirurgical Society.

temperature was normal, the pulse 120, small and regular, the tongue large and fissured along the median line, with small fissures branching off.

Upon examination of the abdomen, some fulness was noticed in the left hypochondrium, and an oval tumour was made out, extending from the costal margin to just below and to the right of the umbilicus, while to the left it extended back to the line drawn upwards from the middle of the crest of the ilium. It could be palpated bimanually and was movable. The dulness extended upwards, merging apparently into an area of thoracic dulness, whose upper margin was 2 inches above the nipple.

The liver dulness was diminished, being 3½ inches across in the right mammary line.

The heart lay in normal position ; both apex and pulmonary systolic murmurs were present, soft in character.

The blood was pale and scanty, the amount of hæmoglobin was reduced to 38 per cent., the red corpuscles reduced to 2,240,000, the white increased to 1200, and in some specimens of blood examined by Dr. Finley, the proportion of white to red had risen to 1 to 80. No change in the character of the corpuscles was noticed.

The urine was normal, though small in quantity (16 ozs. in 24 hours). The stools were normal, one mass was of dark blood-stained colour and with it came a little blood-stained fluid. The larynx was normal, the drum of the left ear concave.

The patient's condition improved in hospital ; upon the 5th she was bright and cheerful and seemed to have gained in strength. At half-past five she had her supper of bread and milk. This seemed to bring on nausea, and after a few minutes she vomited with scarce an effort 20 ozs. of bright blood, which rapidly clotted. She was immediately given ice to suck, an ice bag was placed upon the epigastrium and ergotin was injected subcutaneously. Ten minutes later a smaller quantity of blood was vomited. A stool passed at the time of the first hæmorrhage was normal and bloodless. Saline enemata were now given. At 6.20 a third hæmorrhage occurred, followed by three more ; altogether 48 ozs. of blood was brought up from the stomach. The patient suffered from great epigastric pain and gradually sank, dying at 1.35 a.m. on the 6th.

We have entered into all these details in order to throw as much light as possible upon the condition found at the autopsy. This was performed eleven hours after death.

Autopsy.—The body was found fairly well developed and of large proportions for the age of the girl (eleven years). There was no excessive fat : the abdomen was sunken. The organs in the thoracic cavity were very pale, there was a little clear fluid in both peritoneal and pleural cavities. The blood present in all the cavities was fluid and presented a peculiarly pale, diluted appearance. The heart was normal, the lungs rather sodden and œdematous.

Upon opening the abdominal cavity, the small intestines and other organs showed extreme pallor. The large intestines were distended and filled with almost clear fluid (the result of saline enemata given shortly before death). The liver was wholly retracted behind the ribs

save that below the ensiform cartilage the left lobe showed for the extent of three-quarters of an inch. The spleen, which was of a dull pale bluish colour with well rounded edges, extended forward and downward to within an inch of the umbilicus.

The result of the examination of the various organs was as follows :—The spleen measured 20 x 8 x 3.5 cm. and weighed 410 grms. The surface showed a reticulated fibrous condition. The splenic vessels at the hilus were large, but not abnormally thick ; there was no local evidence of interference with the circulation of the organs. Upon section the trabeculæ were distinct and prominent ; the pulp was relatively scanty and pale, while the Malpighian bodies were not prominent. The microscopic examination bore out these naked eye characters, the most noticeable feature being the general intestitial fibrosis more marked in some regions than in others, although everywhere the trabeculæ were enlarged.

The liver was small, with sharp irregular edges, and weighed only 610 grm.—one half as much again as the enlarged speen. The organ was very pale and had a distinctly cirrhotic appearance. On section, however, much of the fibroid change appeared to be superficial, and while the organ was firm and cut firmly, but few bands of fibrous tissue could be made out passing from the surface deep into the substance. Here and there were small isolated fibroid patches in the liver tissue. The gall bladder was small and covered by an unusual layer of fat, more than 0.5 c.m. in thickness. The ducts were pervious. Microscopically the main characteristic of sections of the organ was its leuchæmic appearance ; the capillaries throughout were large and easily recognizable, though there was not the slightest indication of central atrophy of the cells, of nutmeg liver ; contrariwise, it was difficult to recognize the individual lobules. The capillaries contained an undue number of leucocytes, in fact, certain of them were completely injected with these corpuscles. In addition the organ was markedly cirrhotic, but the cirrhosis was not of the common type. There was not anything approaching to a framework of increased fibrous tissue, but here and there were isolated patches of fibrous overgrowth, many perilobular, while some were within the lobules. The growth was of various periods ; some of the patches were of well formed fibrous tissue, but there were occasional areas of recent cirrhosis with small cell infiltration.

Certain capillaries in the heart muscle showed also this injection with leucocytes ; otherwise the heart muscle was normal, save that it showed, where the fibres were cut transversely, peculiarly well marked vacuolation. This vacuolation is frequently to be noticed in the cardiac muscle fibres of children, and it is questionable whether it should be regarded as a pathological condition.

Beyond their pallor, the kidneys, which weighed each 90 grms., presented nothing calling for remark, either macro-or microscopically, nor was there anything noticeable in the other abdominal and pelvic organs with the exception of the intestines.

The stomach contained 8 ozs. of clotted blood. There was no ulceration or evidence of localised or general inflammation. Careful examination, both by the naked eye and by the microscope failed

to reveal any ruptured vessel or cause for the hæmorrhage, which would seem, therefore, to have been of capillary origin.

The jejunum showed blood-stained hæmorrhagic patches in its mucous membrane, which varied in length from two feet to seven or eight inches, and were separated from one another by areas of apparently normal intestine. The ileum was similarly affected, but to a less degree. In neither could any special hæmorrhagic point, or ruptured vessel be discovered. The cæcum was normal, the appendix thickened, its mucous membrane reddened and apparently inflamed ; the follicles were slightly enlarged. The large intestine and rectum were normal.

There was no noticeable enlargement of the mesenteric or other lymph glands. The marrow of the sternum was red, but not increased in extent. It had not the dirty reddish grey color characteristic of leuchæmia. It may be added that the brain was not examined.

Two conditions might possibly explain the clinical and other conditions of this case : cirrhosis of the liver and leuchæmia. But there is much that can be brought against the former possibility. While enlargement of the spleen is frequently associated with cirrhosis, that enlargement is only moderate, and does not approach to the extent discovered in this case. Again cirrhosis fits in ill with the history of hæmatemesis, manifesting itself at irregular intervals over a period of seven years ; and while the liver was undoubtedly cirrhotic, the fibroid change was not of either the ordinary or congenital syphilitic type.

On the other hand much may be said in favor of leuchæmia. The spleen was distinctly of the leuchæmic type ; its large size and fibroid condition are both characteristic of splenic leuchæmia. The injection of the capillaries in liver and heart are in favour of this diagnosis : the hæmorrhages from the stomach and intestines also support it. The absence of any marked swelling of the lymphatic glands or of greyish red softening of the sternal marrow is not against it. Still there are difficulties in connection with this view of the case. Leuchæmia in children generally runs a rapid course, and if this be a case of the disease, we are almost bound to assume that it has had a duration of four, if not of seven years, the first hæmorrhage, of a type similar to the last, having occurred when the child was four years old. Again while the proportions of white to red corpuscles, as determined by Dr. Finley, had become increased from the normal of 1 in 300 to 1 in 80, it cannot be said that this is a very great increase, especially when the facts are taken into account that correspondingly

there was, through the antecedent great hæmorrhage, a diminution of the red corpuscles to less than half the normal number, and that one expects to find a post-hæmorrhagic increase of the white corpuscles.

Nevertheless, in certain cases of leuchæmia, the number of leucocytes present in the blood is capable of great variation from time to time, and taking into account the very typical spleen and the condition of the liver, I am inclined to consider that this must be regarded as a case of chronic, or it may be termed intermittent leuchæmia, in which it has happened that the observations upon the blood have been made at a time when there has been a relatively small increase in the number of white corpuscles. The state of the liver appears to me to sustain this view. Apart from the capillaries with their injection of leucocytes, the curious cirrhotic condition of this organ, with its isolated areas of fibroid change, some old and well developed, some comparatively recent, some external to the lobules, some within the lobules—all this is what might be expected to result from capillary emboli produced from time to time in the organ by masses of leucocytes.

INFECTIOUS PNEUMONIA.*

By G. Gordon Campbell, B.Sc., M.D.,
Asst. Physician Montreal General Hospital.

My object in presenting this report to the Society is not because there is anything of special interest in the three cases of pneumonia in themselves, but from the apparent dependance of two upon the third for their origin.

Briefly, the history of the three is as follows :—

Case I.—On Sunday, November 19th, Mrs. D., aged 30, was seized with a severe rigor followed by high fever and sharp pains in the right side. I saw her on the 22nd, two days after the onset, and made out the usual signs of pneumonic consolidation of the base of the right lung, and over the dull area well marked pleuritic friction sounds. Temperature 104°, P. 130, R. 36, and a small amount of rusty expectoration. The pyrexia lasted ten days, falling to normal in the course of 48 hours, the termination being accompanied by a profuse diarrhœa. The whole lung ultimately became involved in the pneumonic process, and the resolution is not yet complete 4 weeks after the fall of the temperature.

Case II.—Solomon D., the six year old son of No. 1, was seized with a slight chill on the afternoon of Dec. 21st, just 48 hours after his mother. I saw him the following day and found the early physical signs of pneumonia in the left base. Temp. 103.8°, P. 150, R. 40. Here also in two days the whole lung was involved, but the general condition remained good throughout, although the respirations for 24 hours were 64 per minute. The fever lasted 7 days, coming down to normal the morning of the 29th. Resolution was prompt and complete.

Case III.—Charley D., aged 4, a brother of the last, was seized with the early symptoms on the evening of the 24th, 5 days after his mother and 3 after his brother. This boy had been under my care with bronchitis from the 4th to the 9th of the same month (November). On making my first visit to the above two cases on the 22nd, he was crying with pain in the head and neck, and I examined his chest and found

* Read before the Medico-Chirurgical Society, December 29th, 1893.

evidence of a general bronchitis, with a temp. of 100°, R. 28 ; the two following days he was improved, but, as before mentioned, on the evening of the 24th he became rapidly worse, and by the 26th I made out all the usual physical signs of lobar pneumonia, extending from the base of the right lung to an inch above the nipple in front. The fever here was not so high as in the other two cases and fell to normal on the fifth day, remaining down one week, then an evening rise was noticed, and he developed an empyæma, which has been treated in the surgical wards of the General Hospital.

In the first case the cause was considered to be a very rapid fall in temperature, accompanied by a very high wind, to which the patient had been exposed while insufficiently clad. The second case occurred two days later, and he had been in good health up to the time of the onset and consequently exposed to the same aërial conditions as his mother. It is to the third case, however, that the most interest attaches, for he had not been outside the house door for three weeks previously, and on my first visit I had examined his lungs and found nothing but a rekindling of the general bronchitis, for which I had already been treating him, and it was not until two days later that the pneumonia developed. The whole family sleep in the one room, the youngest boy in the same bed with his mother, and consequently there was every facility for infection, provided such is possible, and I think in this particular instance we are forced to the conclusion that Case No. III was contracted from the other two, and in all probability No. II. from No. I.

That pneumonia is due to a specific micro-organism is now generally admitted, but cases which can be definitely shown to depend directly upon others are not numerous enough to allow one to neglect putting them on record.

SCIATICA AS A COMPLICATION OF CARCINOMA.

By Robt. C. Kirkpatrick, M.D., Asst. Surg. Mont. Gen. Hosp.

We have all met with cases of carcinoma in or about the pelvis, in which there was, as a prominent symptom, pain down the course of the sciatic nerve. These, however, are not the cases I mean when I speak of sciatica complicating carcinoma. Such cases can be explained, either by direct pressure of the tumour upon the nerve or by invasion of the nerve by the contiguous cancer. In the cases I wish to bring before you to-night the cancer was situated at a distance from the nerve, and, in two in which autopsies were performed, no tumour of any kind was found in the abdomen or pelvis.

The cases are three in number, and the histories are briefly as follows :—

Case I.—Mrs. H., aged 36, came under my care in May, 1892, suffering from a severe sciatica on the left side. At that time there was inability to move the leg on account of the pain, and the affected thigh was one inch less than the other in circumference. There was marked tenderness down the course of the nerve from its point of exit nearly to the knee. She also complained of a swelling in the right breast. Twelve years previously a crochet needle had been run into the breast, and a year ago this tumour appeared as a small nodule at the site of the old injury. It had increased until, when I saw her, it was the size of a lemon, and extended from the nipple upwards and inwards toward the sternum. The nipple was very slightly retracted. The growth was hard, not movable over the subjacent tissues and the skin over it was reddened. There was also present a thickening and enlargement of the joint between the first two pieces of the sternum, a symptom which has been pointed out by Snow as of frequent occurrence. The tumour was removed by the usual operation, and proved to be a scirrhus carcinoma. The axillary glands were not enlarged. A vaginal examination was refused, but no abdominal tenderness or tumour could be made out externally. The patient shortly afterwards left the city and was lost sight of.

* Read before the Montreal Clinical Society, November 11th, 1893.

Case II.—A. G., aged 41, entered Montreal General Hospital January 10th, 1885, complaining of inability to move left leg without great pain. She had a large ulcerating carcinoma of left breast, on account of which she had been in the hospital before. While leaving hospital the last time this pain had come on and remained ever since. She died February 10th, 1885, and at the autopsy no secondary deposits were found anywhere in body.

Case III.—W. S., aged 60, was admitted to Montreal General Hospital, February 4th, 1886, complaining of cough, shortness of breath and pain in the chest, coming on about four months previously and gradually increasing. The physical signs were dullness over the lower part of front and side of right chest, with diminished respiration and coarse friction sounds. He was weak and kept to his bed. In April he developed sciatica in his left leg, and about a fortnight later in the right leg. He died May 24th, 1880, and at the autopsy was found a primary carcinoma of the right pleura, with secondary deposits in the lungs, liver, kidneys, and left supra renal capusule. There was no enlargement of the retroperitoneal glands, nor any apparent deposit about the nerve.

In these two latter cases there was unfortunately no examination made of the nerve microscopically, therefore the cause of the pain is left to conjecture.

It is to be observed in all three cases the absence of any of the usual causes of sciatica, exposure to cold, rheumatism, pelvic or abdominal tumours or disease of the spine, and the pain came on before the patient had become much debilitated.

In the first case, the pain came on when the patient was getting into bed, and came on so suddenly that she thought that something had broken or got out of place. The second patient had been confined to bed for some time and presumably had improved in health, for she was going down stairs preparatory to leaving the hospital when the pain came, slightly at first and gradually becoming more severe, until she was unable to move the limb. The third case had been in bed for two months when the pain appeared, and possibly asthenia may have been a causative factor here.

The only suggestion I can make as to the cause of the pain is that secondary deposits took place within the nerve itself, probably about some of the arterioles, and by the irritation and pressure produced by their presence, set up more or less neuritis, or the same condition may have been produced by some of the products of the cancer circulating in the blood. All these cases proved most rebellious to treatment, local and general. The affection was so severe that the patients were confined to bed and were obliged to remain at rest. The complication is comparatively rare, but it seems to be more than a mere coincidence that this nerve was picked out in all the cases, and I have no doubt more cases would be found were an inquiry instituted with that end in view.

An interesting point in the history of the second case, is that during her first stay in the hospital she had an attack of erysipelas, after which the carcinomatous ulcer healed to a great extent.

ANEURISM OF THE ASCENDING AORTA WITH EROSION OF THE RIBS.*

By E. P. Williams, M.D., Montreal.

(From the Molson Pathological Laboratory, McGill College.)

G. B., æt. 56, was for many years foreman on some dredging operations, and occasionally acted as diver. Previously, at the age of twenty-one, he had malarial fever, and at twenty-five an attack of acute rheumatism. Since then he has had several acute attacks and constant chronic rheumatism. He comes of a healthy long-lived family, and has healthy children of his own.

During the summer of 1892 he suffered from anorexia and insomnia, and on the first of November he suddenly felt a sharp pain in the right mammary region, "like shoving in a red hot iron and drawing it out again.

The pain was paroxysmal and severe for five days, then the attacks occurred about every third or second day.

On Jan. 1, 1893, he noticed for the first time a small tumour in the right mammary region which, from time to time, would swell up and "lift"; the skin over it would become red and tender and then the paroxysms of pain began at the tumour, back, right shoulder and arm. After three or four hours the ribs seemed to "lift" and the pain would cease.

Upon examination at the Montreal General Hospital under Dr. Wilkins, a prominent pulsating tumour was found projecting forwards about 5 cm., and covered by reddened, œdematous skin. The most prominent part was firm but above, the tumour was soft and compressible.

The ribs were not felt under the tumour. Dulness extended slightly beyond its outline.

Pulsation was synchronous with the heart beat, a sharp systolic rise followed by a quick fall; a slight systolic blow after the first sound was heard over the swelling, while the second sound is heard distinctly.

Tracheal tugging could be obtained.

The apex beat was at the fifth left interspace and almost imperceptible. The sounds were normal, the aortic slightly

* Shown before the Montreal Medico-Chirurgical Society, Jan. 12th, 1894.

accentuated. Pulse 72, of low tension; the radials were slightly thickened and pulsated equally. Respirations 20. Eyes normal.

After leaving the hospital the patient returned to his home. Dr. H. P. Shaw, who attended him, states that the pain became almost intolerable, only relieved by chloroform. Dyspnœa was severe and almost constant. The tumour was tense and heavy, requiring support by bandaging.

The temperature ranged from 101° to 104°.

On November 10th, after several attacks of syncope, he became unconscious and died comatose two days later.

At the autopsy, three hours after death, a firm clot was found in the aorta extending from the aortic ring as far as and into the great vessels of the neck, and projecting through the orifice of the aneurism. The sac was filled with soft clot. Both lungs were gangrenous.

The heart appears to be of average size with normal cavities and valves. The aorta is dilated, measuring at the ring 3 in. in circumference; one inch further, 6½ in., and an inch beyond the left subclavian, 4¼ in. It is rough and shows irregular nodules of atheroma, some breaking down, some undergoing calcification.

The great vessels of the neck are also atheromatous, measuring:—Innominate, 2 in.; L. carotid, 1¼ in.; L. subclavian, 1¾ in. in circumference.

Three inches from the aortic ring in the anterior wall of the aorta is a circular, thick edged orifice, 4½ in. in circumference, communicating with an aneurismal sac of large size.

In the course of its growth, the sac probably became firmly attached to the wall of the thorax, and then gradually eroded through the ribs and intercostal structures to form a false aneurism covered by the skin.

The posterior wall consists of the remains of the dilated arterial coat, which is firmly united to the inner thoracic wall in a circular manner, the diameter being 5¾ in. from the mid-sternum to the right axilla, and from the second to the fifth ribs.

Outside the thorax, the dilatation extends further in all

directions, being about 8½ in. in diameter, as far to the left as the left costal cartilages, and from the upper border of the first rib to the lower border of the sixth.

The anterior wall is formed by the skin which is thin and vascular, especially over the central portion.

Into the sac project the rough ends of the eroded and broken 3rd, 4th and 5th ribs, and the edge of the sternum, which is rough and eroded between the 3rd and 4th costal cartilages. There are also bits of semi-detached bone and adherent portions of more or less organized clot.

STATISTICS OF THE CORONER'S COURT FOR THE DISTRICT OF MONTREAL, 1893.

By Wyatt Johnston, M.D., and George Villeneuve, M.D., Montreal.

The number of deaths investigated during the year was 386. Calculated from the census of 1891, the population of the judicial district of Montreal is rather more than 350,000, of which about 280,000 is urban, making a yearly rate of about 1.1 inquests per 1,000 inhabitants of the district.

In 184 of the 386 cases we were summoned to testify as experts. In the remaining 202 cases the information is obtained from the very complete public records of inquests kept by Coroner McMahon. Of these there were 36 cases in which no medical testimony was taken. In the remaining 166 cases, the medical evidence was given by other physicians, who in 60 cases had either not seen the deceased professionally during life or only at a time remote from the death. In 88 of the cases the evidence was taken before the coroner alone, without a jury.

We give the following details which seem of interest.

Of the bodies, 276 were males and 109 females. In one case, that of a newborn child, the sex is not stated.

Classification by Ages.

Age...	New-born.	Under 1 yr.	1 to 5 years	5 to 10 yrs.	10 to 20 yrs.	20 to 30 yrs.	30 to 40 yrs.	40 to 50 yrs.	50 to 60 yrs.	60 to 70 yrs.	70 to 80 yrs.	80 to 90 yrs.	90 to 100 yr.	Unknown.	Total.
Cases.	14	11	23	14	25	55	46	58	44	34	17	15	3	27	386
Per ct.	3·6	2·8	5·9	3·6	6·5	14·3	11·9	15·1	11·4	8·8	4·4	3·9	0·8	7·0	100·0

Classification by Months.

Month.....	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Cases.....	23	35	35	28	36	44	33	40	27	41	26	18	386
Percentage	5·9	9·1	9 1	7·2	9·3	11·4	8·5	10·4	7·1	10·6	6·7	4·7	100·0

NUMBER OF AUTOPSIES HELD, WITH THEIR PROPORTION TO THE NUMBER OF INQUESTS IN EACH MONTH.

Month.....	Jan.	Feb.	March.	April.	May.	June.	July.	August	Sept.	Oct.	Nov.	Dec.	Total.
Autopsies..	3	2	1	6	4	10	5	9	5	8	2	1	56
Percentage	13·1	5·4	2·8	21·4	11·1	22·7	15·1	22·5	18·1	19·5	7·7	5·5	14·5

CLASSIFICATION BY VERDICTS AND CAUSES OF DEATH

I.—HOMICIDES.

Firearms	1
Blows and falls	4
Criminal negligence	4
Infanticide	3
Total	12

II.—SUICIDES.

Firearms	5
Cutting throat	3
Hanging	2
Drowning	1
Jumping from height	1
Railways	2
Poisoning	9
Total	23

III.—ACCIDENTS.

Firearms	4	Drowning	41
Machinery	3	Choking by food	3
Elevators	3	Overlaying	3
Railways	23	Illuminating gas	7
Street railways	8	Administration of chloroform	2
Horse and carriage	14	Poisoning	11
Tobogganing	1	Exposure	2
Burns, scalds, burning buildings	22	Sunstroke	1
Explosions	3	Other causes	1
Falls from height	11	Total	174
Falling bodies	11		

IV.—NATURAL AND UNKNOWN CAUSES.

Circulatory System (40)—	Heart disease	39
	Aortic aneurism	1
Respiratory System (35)—	Pneumonia	15
	Phthisis and hæmoptysis	17
	Bronchitis	1
	Pulmonary embolism	1
	Other diseases	1
Digestive System (12)—	Diarrhœa	5
	Peritonitis	2
	Other diseases	5

Nervous System (18)—Apoplexy		10
	Congestion of brain	2
	Other diseases	6
Genito-Urinary System (5)—Chronic nephritis		1
	Urethral fever	2
	Puerperal fever	2
Developmental Diseases—Stillborn		5
Infectious Diseases—Typhoid		1
	Diphtheria	1
General Diseases (10)—Purpura and scurvy		2
	Senile debility	4
	Infantile debility	4
	Other diseases	2
Habits and Occupations—Intemperance		5
Unknown causes		45
	Total	177

SUMMARY OF THE PRINCIPAL GROUPS OF CAUSES OF DEATH, GIVING THE PERCENTAGE WHICH THEY FORM OF THE TOTAL INQUESTS AND ALSO THEIR FREQUENCY, PER 10,000 LIVING.

Verdicts.	Number.	Per cent.	Per 10,000 living.
Homicide	12	3·11	0·34
Suicide	23	5·96	0·65
Accidents	174	45·07	4·96
Natural and unknown causes	177	45·86	....
Total	386	100·0	....

Deaths from Homicide.

A few remarks upon these different groups may not be out of place.

We have no case of conviction for murder or manslaughter to record. Of 12 verdicts of homicide, 3 were for infanticide by persons unknown. In none of these was the guilt brought home to an individual. Of the 9 remaining cases: in one the violence took place in Ontario and therefore has no bearing upon the criminality of this district; two charges, both for manslaughter, are still before the courts; one case was discharged by the police magistrate; in 5 cases the grand juries found no bill, and the only one which came before the Court of Queen's Bench was dismissed by the judge without calling for the defence. In none of the cases was there any evidence of malice.

The results of the incriminating verdicts of coroner's juries here appear to be of a surprisingly mild and harmless character. In a number of cases of accidental death, verdicts of "negligence not criminal" were found.

Deaths from Suicide.

SEX AND SOCIAL CONDITION.

MALES.		FEMALES.	
Married	12	Married	1
Unmarried	4	Unmarried	2
Not stated	2	Widows	2
	18		5
Total	23		

SUICIDE: CLASSIFICATION BY AGE.

Age	Below 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	Above 60.	Total.
Number	1	4	4	8	4	2	23

SUICIDE: CLASSIFICATION BY MONTHS.

Month	Jan.	Feb.	March.	April.	May.	June.	July.	August	Sept.	Oct.	Nov.	Dec.
Number	0	0	2	2	4	4	1	3	1	2	2	2

The occupations of the male victims were as follows:—Lawyers, 1; farmers, 1; merchants and clerks, 4; workmen and servants, 12.

The apparent causes were as follows:—Business trouble, 1; family trouble, 1; unknown, 1; physicial disease and suffering, 2; love, jealousy, or dissipation, 4; drink, 5; mental disease, 9.

It is reassuring to note that the frequency of suicide, viz., 0·65 per 10,000, in Montreal, is low in comparison with most other large American cities, the rate per 10,000 living in 1891, having been as follows: Baltimore, 0·56; Philadelphia, 0·76; Boston, 1·11; New York, 1·57; Chicago, 1·87; St. Louis,

2·16; San Francisco, 2·66. In Paris, the annual rate of suicide is about 3·78 per 10,000.

Of 9 cases where poison was the means employed, 7 were by Paris green; and one from rough-on-rats. Some means should be taken to restrict the too ready sale of such deadly commodities. The suicides by firearms, cutting throat and hanging, were all in males.

Accidental Deaths.

The commonest causes of accident, in order of frequency, were:—

Drowning	41, or 23·5	per cent.
Railways	23, or 13·2	"
Burns, scalds and fires	22, or 12·6	"
Horses and carriages	14, or 8·2	"
Falls from height	11, or 6·3	"
Falling bodies	11, or 6·3	"
Poisoning	11, or 6·3	"
Street railway	8, or 4·4	"
Illuminating gas	7, or 4.1	"

Drowning.—The number of drowning accidents is sufficiently high to attract attention. Of the 41 cases, the accidental nature of the drowning was well established in 32 cases only, all that could be stated about the remaining 9 bodies being simply that they were found in the water.

Illuminating Gas.—The number of deaths from illuminating gas is also surprisingly large. The danger of gas depends upon the proportion of carbon monoxide it contains, and this again depends upon the mode in which the gas is prepared. It has always been asserted that the gas supply of Montreal contains a very small proportion of this dangerous ingredient, but the large number of deaths from this cause would seem to render the subject worthy of investigation by our health authorities.

The accidents happening in connection with public travel naturally have a great public interest.

Fatal Railway Accidents.—The victims were trespassers in 10 cases; employees (brakesmen or switchmen) in 6 cases; travellers in 4. In 4 cases the accidents occurred at level crossings.

Street Railways.—Of 8 fatal accidents during the past year, 5 occurred in connection with electric cars and 3 with horse

cars. Two of the victims were employees; 1 was a child playing upon an empty car on a siding; 3 were persons crossing the street, and 2 were passengers (one of whom got off the car, while in motion, on the wrong side and was struck by an approaching car on the other track; the other was killed while trying to pass from one car to another while in motion). None of the accidents were shown to be due to the use of the trolley system or the over head wire.

Elevators.—Three deaths which occurred from elevator accidents were all due to imprudence of the persons killed, none arising from any defect in the machinery.

In most of the accidental deaths the cause was clearly established by the evidence of eye witnesses, and the investigations were conducted chiefly with a view of deciding whether there had been criminal carelessness or not.

Deaths from Natural Causes.

In 130 cases definite natural causes were assigned, and in 47 the finding was either "natural causes," "unknown causes," or "unknown natural causes." The nature of the cause of death was almost always made out when autopsies were made out, and, therefore, the expression unknown means that, in most cases, no attempt was made to find out the cause of death. It has not seemed advisable to attach any importance to the relative frequency of the known and unknown causes shown in the tables, because, in a large number of cases, definite causes were assigned for the death without any proof at all being adduced that the alleged causes really existed.

There is no doubt that a large number of the deaths investigated during the year were, directly or indirectly, due to drink, but as the conclusions of the juries on this point appear to have been arrived at by intuition rather than by investigation and weighing of the evidence, definite statements on this head based on the verdicts would be misleading. We have, therefore, refrained from attempting to estimate the exact proportion of deaths due to intemperance.

Pathological Reports.

A RARE FORM OF SUB-DIAPHRAGMATIC ABSCESS.*

By Professor J. G. Adami, M.A., M.D.
(From the McGill Pathological Laboratory.)

It is not a little noticeable how silent are even the best and most modern text books upon the subject of sub-diaphragmatic abscess, with a silence that is out of proportion to its diagnostic and clinical interest, and it may be added to its relative frequency. Doubtless the fact that the subject cannot be treated under the heading of any one special organ, leads to its being neglected in well-ordered text books. so that information has still to be gathered from scattered papers. Thus it happens that although I am acquainted with a fair number of cases in which the original disturbance has originated in connection with the liver, kidney, spleen or stomach, I have been able to find none presenting the anatomical features of the case here recorded, though such must exist.†

The patient, L. F., sixty-five years old, was received into the General Hospital, under Dr. Molson, upon October 3rd, in a state of semi-collapse. All that could be ascertained as to his previous history was that for the past four or five days he had been suffering from pain in the epigastrium, thirst, restlessness and pains in the joints. He died within twenty-four hours, before time had been allowed for a full diagnosis. The pulse was almost imperceptible, there was a large area of cardiac dulness, the heart sounds could scarcely be heard, while no murmur could be detected. Over the region of the liver in front there was acute pain upon pressure. The respiratory sounds were tubular. A provisional diagnosis was made of pericarditis.

At the autopsy performed upon October 5th, the following were the more important conditions observed. The skin of the whole body had a slight yellowish tinge. The pleural cavities contained about eight ounces of clear serum. The lungs were

* Read in abstract before the Montreal Medico-Chirurgical Society, Nov. 3rd, 1893.

† Petri, Dissertation, Berlin, 1868, quotes a case of sub-diaphragmatic perforation of the œsophagus following upon cancer, but of the extent of the succeeding inflammation I cannot clearly learn, not having the original by me.

very œdematous, showed some slight signs of anthracosis, and in either apex were found evidences of an old and cicatrised tuberculous condition. The pericardial cavity was enormously distended, the fluid was milky with numerous flocculi floating therein. The heart was covered over with a layer of inflammatory lymph ; and its cavities were filled with well-formed clots, firm and rather pale, together with some fluid blood. The lower and inner half of the parietal pericardium was thickened, and upon cutting into it, down upon the diaphragm an abscess cavity was exposed lying between diaphragm and pericardium. This was of irregular shape and contained a quantity of thick creamy pus. Upon inspecting the abdomen, a large abscess was found beneath the diaphragm, having in its centre the abdominal end of the œsophagus and the cardiac end of the stomach. This extended to the left edge and under the surface of the left lobe of the liver on the one side ; on the other it almost touched the splenic flexure of the colon and the surface of the spleen. It was filled with a thinner greyish pus, and communicated through the diaphragm with the supra-diaphragmatic abscess. The cardiac orifice of the stomach was discovered to be greatly stenosed and ulcerated. Further inspection revealed that there was a ring of cancerous growth implicating the gastric mucous membrane, and forming a ring varying in breadth from 2 to 3 cm. around the cardiac orifice ; the growth extended a short distance up the œsophagus. Microscopical examination showed the cancer to be primarily gastric —that is to say, it was of the nature of a columnar celled carcinoma. It infiltrated all the coats of the stomach.

No actual perforation of the stomach or œsophagus was to be discovered.

It would seem evident that the history of the case was one primarily of cancer of the cardiac orifice of the stomach leading to stenosis ; ulceration of the cancer, and extension of the septic process through to the serous surface of the organ—or, it may have been, perforation above the stenosed area by a fish bone or other fine spicule, the passage closing behind the foreign body ; suppuration around the termination of the œsophagus

leading to a sub-diaphragmatic abscess; extension of the process through the diaphragm; inflammation of some little standing of the outer layers of the parietal pericardium; extension through the pericardium; purulent pericarditis; death.

Judging from the condition of the sub-diaphragmatic abscess, and the want of well-defined boundary, this had of late been extending rapidly.

There is a possible alternative that the supra-diaphragmatic abscess with its more creamy pus was of the earlier origin, but this I think is improbable. The presence of the gastro-œsophageal carcinoma in such characteristic relationship to the surrounding sub-diaphragmatic abscess, renders the former the more likely course of events.

Reviews and Notices of Books.

Hand-book of Public Health and Demography. By Edward F. Willoughby, M.D. Macmillan & Co. London and New York, 1893. 8vo. pp. 509.

It is not usual to find the title of hand-book claimed for a volume which is small enough to put in one's pocket, as is the case with the present work. Possibly the fact that the author has already published a "Health Officers' Pocket-Book," may explain this apparent anomaly. The compact form is largely owing to a very careful condensation of the material, and if, as we suspect, the chief purpose of the book is to enable its readers to acquire sufficient information on sanitary matters to pass a competitive examination, it is excellently adapted for its purpose, and can be heartily recommended to those having such an object in view.

On the other hand, we doubt if, even after mastering the contents, the reader would understand how to set about any ordinary sanitary investigation, whereas a hand-book is supposed to be thorough and explicit on practical matters. In this work the subject of biological water analysis is summarily dealt with in less than two pages—possibly owing to the fact that no board of examiners asks questions on this subject. On theoretical points, the information is well arranged and for the most part accurate, although our theatre-goers would be surprised to learn that the Madison Square Theatre, Montreal, is the best ventilated in the world, the air being as pure after a performance as before.

An American Text-Book of Gynæcology, Medical and Surgical, for the use of Students and Practitioners. By Henry T. Byford, M.D., John M. Baldy, M.D., Edwin Cragin, M.D., J. H. Etheridge, M.D., William Goodell, M.D., Howard A. Kelly, M.D., Florian Krug, M.D., E. E. Montgomery, M.D., William R. Pryor, M.D., George M. Tuttle, M.D. Edited by J. M. Baldy, M.D. Royal 8vo. pp. 713, with 360 illustrations in text, and 37 coloured and half-tone plates. Price, $6.00.

This volume is the latest addition to the literature of gynæcology. It is written by American authors, and this should be a great recommendation, as America has led the

van in this subject, thanks to the methods of life of the average American woman. Following a recent custom the authors have not signed their articles, but the book is presented as the combined work of all. This, we think, is a mistake, for we cannot tell who is the author of any particular statement, and consequently the work lacks authoritativeness.

The student is supposed to come prepared for the study of this subject, by having already learned his anatomy, consequently the anatomical descriptions are omitted, in order that the book may not be too bulky. However, in this connection plates are introduced for reference which are quite sufficient to recall the main points to the student's mind.

The chapter on the technique of gynæcological operations is one that can be read with benefit by any surgeon, and we note with pleasure the simplicity of the arrangements. A complete operating room can be improvised without difficulty from the materials to be found in any well-appointed household. A chapter on the after-treatment in gynæcological operations adds much to the value of the book, for the information given is the result of that long and varied experience only obtainable by the few who are attached to large hospitals. The chapter on diseases of the urethra, bladder and ureters introduces the subject of catheterization of the ureters, which has lately come into prominence in the diagnosis of diseases of the urinary organs. Tuberculosis of the generative organs is considered in a separate chapter, including lupus of the external parts and tuburcular peritonitis. The volume is fully illustrated, most of the illustrations being from photographs of cases. The type is large and clear, so that from all points it is a magnificent work, and should enjoy a large circulation.

Transactions of the American Ophthalmological Society. Twenty-ninth Annual Meeting, New London, Conn., 1893. Hartford, published by the Society. 142 pp.

The proceedings of the American Ophthalmological Society for 1893 are to hand, and consist of twenty-two papers, some of much interest.

Dr. C. S. Bull contributes an article on Gouty Retinitis and Chorio-Retinitis. The characteristic changes being arterio-and phlebo-sclerosis in the vessels of the retina and choroid, and a

yellowish granular exudation in the retina at the posterior pole of the eye, leaving generally the macula intact.

Knapp reports a unique case of traumatic dislocation of the iris under the unruptured conjunctiva, followed by sympathetic ophthalmia of the other eye a few weeks later. This is a nut to crack for the adherents of the microbic theory.

Dr. C. A. Oliver's paper on the relation of the patellar tendon reflex to some of the ocular reflexes found in general paralysis of the insane is very interesting, the parallelism with the pupillary reflex being especially so.

The only new apparatuses brought forward were a useful ocular mask by Dr. F. W. King, made of papier maché, to protect the eyes after operations, &c., and also a simple magnet for removing foreign bodies from the cornea, by Dr. W. B. Johnson.

The volume terminates with the report of a case of pulsating exophthalmos by Dr. R. A. Reeve, which was treated by ligation of both common carotids with only partial success.

"Nil Desperandum," Autobiographical Sketches and Personal Recollections, by Geo. T. Angell, President of the American Humane Education Society, the Massachusetts Society for the Prevention of Cruelty to Animals, and the Parent American Band of Mercy, 19 Milk street, Boston. Published for the use of his friends and all who care to read them. "The American Humane Education Society," 19 Milk street, Boston. Prices at the Society's Offices, paper 6 cents; cloth, 20 cents.

The title of the book is the motto adopted by the author in his youth. It contains a sketch of his life and of his work in connection with the suppression of cruelty to dumb animals. It is worth the while of those interested in this work to read the publication. The views are moderate, and the writer evidently believes more in the power of education than in the efficacy of legislation to obtain the desired results.

Babyhood—The Mother's Nursery Guide, devoted exclusively to the care of infants and young children, and the general interests of the nursery. A monthly journal, published by Babyhood Publishing Co., 5 Beekman street, New York. $1.00 a year.

With the December number of this bright little periodical

the tenth yearly volume commences. It is a publication devoted to the interests of the very small members of the family, and contains advice to mothers and nurses on all points relating to the comfort and well-being of their little charges. It contains original articles on various subjects, hints regarding the clothing, &c., of infants, correspondence from mothers, answers to questions and many other subjects of interest. The frontispiece of this number is a handsome engraving, entitled " A Study of Eskimo Babies—Mrs. Peary on the shores of Greenland," which adds greatly to the attractiveness of the magazine. The articles are all useful and relevant to the object of the journal, and we are sure it will be a welcome visitor in all households where there is a baby.

Retrospect of Canadian Medical Literature.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian works published in other countries) for notice in this department of the JOURNAL.]

BIBLIOGRAPHY.

Maritime Medical News, Jan. 1894.

Lacerated cervix with trachelorraphy.—Foster McFarlane, p. 207.

(1.) Case of hysteria.—A Halliday, p. 211.

Fatal case of acute rheumatism. —C. P. Bisset, p. 214.

Double ovarian cyst.—E. Farrell, p. 215.

Maritime Medical News, Feb. 1894.

The infancy of chloroform.—Hy. F. Jarvis, M.D., p. 225.

Case of universal alopœcia.—C. P. Bisset, p. 233.

(2.) Case of symphysiotomy.—W. B. Slater, p. 234.

(3.) Gunshot wound of brain.—J. J. Cameron, p. 237.

(4.) Catarrhal jaundice (editorial) p. 236.

Canadian Practitioner, Jan. 1894.

(5.) Puerperal septicæmia.—A. H. Wright, p. 1.

Excision of elbow for tubercular diseases.—A. Primrose, p. 9.

(6.) Acute mania following trachelorrhaphy.—K. N. Fenwick, p. 13.

Intestinal tuberculosis.—W. M. Bernhart, p. 18.

Canada Lancet, Jan. 1894.

Cause and treatment of diphtheria.—B. Z. Milner, p. 129.

Diagnosis of disease of accessory sinuses of nose.—M. McFarland, p. 137.

Canada Lancet, Feb. 1894.

(8.) Diagnosis and treatment of flat-foot.—W. H. Bremner, p. 161.

(9.) Bromoform in treatment of whooping cough.—J. T. Duncan, p. 162.

L'Union Médicale, Jan 1894.

Epithelioma of external ear treated by chlorate of potash.—A. A. Foucher, p. 5.

Dominion Medical Monthly, Jan. 1894.

(7.) Inherited fragility of bones.—A. B. Atherton, p. 1.
Infantile spastic paralysis.—J. Ferguson, p. 3.
Case of uterine fibroid.—A. A. Macdonald, p. 6.
Treatment of pharyngeal syphilis.—M. McFarlane, p. 8.

(1.) *Hysterical Paresis.*—Dr. Halliday (Stewiake, N. S.) reports an interesting case of hysterical paresis where an unmarried woman aged 45, who had been bed-ridden for 31 years, was completely cured. The treatment consisted chiefly in gaining the patient's confidence, though tonics, electricity and massage were also employed. There was a neurotic family history, one sister having died insane and another being somewhat hysterical.

(2.) *Symphysiotomy.*—Dr. Slater (Halifax, N.S.) reports a case of symphysiotomy in a patient aged 24, who had been in labour nearly three days at the time of his first visit, and was in a state of extreme exhaustion The head was impacted at the brim and lay wedged between the pubis and a large bony outgrowth from the sacral promontory. It could neither be delivered by forceps nor pushed back so as to allow of version. Symphysiotomy was performed under chloroform, with antiseptic precautions, after emptying the bladder and pushing the urethra to the right side. The bones separated two inches, and the child was delivered by forceps without difficulty, within fifteen minutes of the time when the operation had been commenced. There was no hæmorrhage. Unfortunately the patient died forty hours after delivery from exhaustion, though apparently she would have recovered had the operation been done earlier. This is the first case of this operation recorded in the maritime provinces.

(3.) *Gunshot Wound of Brain.*—Dr. J. J. Cameron (Antigonish, N. S.) publishes an interesting case of gunshot wound of the brain, in E. O., male, aged 48, school-teacher, who on Jan. 2nd, 1892, accidentally shot himself in the left forehead, while handling a 32-calibre revolver. The wound was sounded with a probe 2½ inches into the brain substance without feeling the bullet, about one-third of which was found near the mouth of the wound and removed some days later. A good deal of brain matter came from the wound. Consciousness

was never completely lost, and two days after the accident his mind was as active as ever, though the right side was paralysed for six weeks and he was somewhat emotional. His conversation was clear and precise, and his memory unimpared. Four months after the accident he took charge of a school and taught successfully for three months. In Sept., 1892, he again took charge of a school, but after teaching well for six weeks, became apathetic and gave up the work two weeks later. When seen on Nov. 6th, had suffered from severe pain in the head for some days, but was conscious and able to relate clearly the details of the accident. Until Nov. 24, when death occurred, his temperature ranged from 99° to 103. He retained consciousness till the day of his death. A post-mortem showed thickening of the dura about the site of the wound of entrance near which were some loose fragments of bone. From this point an abscess extended along the bullet track which could be traced by the inflammatory thickening and particles of lead to the left fissure of Rolando and from thence over the surface of the brain to the inner and posterior surface of the left occipital lobe close to the falx, where the flattened and irregular remnant of the bullet was found.

(4.) *Epidemic Catarrhal Jaundice.*—The *Maritime Medical News* refers editorially to an unusual prevalence of cases of catarrhal jaundice in Halifax during the months of October, November and December, 1893. The disease was most common in children though also met with in adults. In some instances three cases occurred in the same family. The onset was sharp with chills, pains in back and limbs, and vomiting and diarrhœa. Fever was rarely a noticeable feature. In some cases there was marked stupor for the first few days.

(5.) *Puerperal Septicæmia.*—Dr. A. H. Wright (Toronto) reports a fatal case occurring in the Burnside Lying-in-Hospital, Toronto—the first since 1891. The patient, a prostitute aged 17, primipara, showed a rise of temperature 60 hours after confinement. The perineum had required stitching. She continued to nurse her child, which developed erysipelas in the right arm on the 6th day, and died on the 9th day. The mother showed cellulitis of both arms and the calf of the right leg. On incision the pus obtained showed streptococci. The uterine discharges were scanty and odourless, and the

uterus was well contracted throughout. The temperature was irregular. Death occurred on the 24th day after confinement. An autopsy by Dr. John Caven showed parenchymatous swelling of spleen, liver and kidneys, a small area of thrombophlebitis in the left broad ligament and diphtheritic endometritis over the placental site. The perineal laceration had not healed and extending from it was acute septic thrombophlebitis of the veins, in which were found great numbers of streptococci. In the child, the deep tissues of the affected arm and leg showed purulent cellulitis and contained streptococci. The viscera appeared sound. The infection of the child was attributed to infection during parturition. Two or three other children which were nursed by the patient all remained well.

(6.) *Acute Mania following Trachelorrhaphy.*—Dr. K. N. Fenwick (Kingston) reports three cases. In one case the patient had been at times insane during the previous year, in the other two there was no previous history of mental trouble. In all of the cases the symptoms of mania began to appear about a week or ten days after the operation and lasted a few weeks. The operation was done in each case for extensive laceration of the cervix. After subsidence of the mental symptoms, there was no recurrence of mania, the time elapsed since the operations being $2\frac{1}{2}$ years, 2 years, and 7 months respectively

(7.) *Inherited Fragility of Bones.*—Dr. A. B. Atherton (Toronto) reports the case of F. D., a boy aged 13, who fractured (or separated) the right olecranon by falling on the floor. Within seven months he met a similar mishap four times, the olecranon being twice broken in the right arm and twice in the left. Union appeared to be rapid and complete on each occasion. The family history showed that his paternal grandfather had sustained at least three or four fractures, and his paternal grandmother frequently broke her limbs, being stated scarcely ever to have had her arm out of a sling. The patient's father had at least six fractures at different times. One paternal uncle fractured both bones of the leg by a fall on his office floor; another fractured his bones over and over again. Two sisters, older than the patient, had escaped fracture.

(8.) *Treatment of Flat-foot.*—W. H. Bremner (Toronto)

recommends for some cases the treatment followed by Whitman of New York, by which, under ether, the foot is forcibly placed in the equino-varus position and afterwards retained in this position in a plaster bandage. Subsequently a shoe is used having the inner side of the sole built up. The patient should each night and morning forcibly adduct and extend the foot, and should be taught to walk with the feet parallel.

(9.) *Treatment of Whooping Cough by Bromoform.*—Dr. J. T. DUNCAN (Toronto) recommends the use of glycerine as a solvent for bromoform. He comes to the conclusion that this remedy lessens the number and severity of the paroxysms and relieves the vomiting. In proper doses (about one minim for each year of the child's age) it appears to be a safe and harmless drug. It does not cut short the course of the disease.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, December 29th, 1893.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Drs. S. F. Wilson and G. H. Raymond were elected members of the Society.

Death Certification.—The Secretary, stated that in reply to Dr. Laberge's inquiry regarding the amendment of the city charter in the matter of death certification, the following resolution, framed by the council and adopted unanimously by the society, had been communicated to Dr. Laberge, medical health officer for Montreal:—

Resolved—1. That clause 17, title 15 of the charter of the city of Montreal be so amended that all certificates of death must be given by the attending physician, the city health officer, or the coroner's physician;

2. That all such certificates of death be registered with the city health officer, at the City Hall, within twenty-four hours of the death of the person;

3. That no body be buried or received for burial by the superintendents of cemeteries without a permit from the city health officer;

4. That such penalties be enforced as to ensure the carrying out of this law.

Specimens of diseased Uterine Appendages.—DR. MARTIN exhibited the following specimens for Drs. Alloway and Adami:

Ovarian Tumour Simulating a Parovarian Cyst.—K. D., aged 30, married, was operated on by Dr. Alloway at the Montreal General Hospital on August 16th, 1893, for the removal of a thin walled cyst, situated in the left broad ligament, and apparently monolocular. The tumour was removed, together with the left ovary and broad ligament. The appendages on the right side being found diseased, were also removed and ventrofixation performed. Recovery was good. Examination of the specimens by Dr. Adami showed that the tumour, though apparently monolocular, really contained several small accessory cysts. The left ovary was enlarged and the ovarian tissue was directly continuous with that of the main cyst, which was, therefore, evidently ovarian in origin. The right

ovary was enlarged and showed numerous dilated graafian follicles forming small cysts, all situated near the surface, and containing in most cases grumous blood-stained fluid. Both tubes were thickened, the right being dilated and containing inspissated purulent fluid. The case was of interest as showing a general tendency to cystic formation of the ovaries.

Hæmatoma of Left Fallopian Tube.—W. E., aged 34, married, had borne five children, and during the last eighteen months had aborted five times. Since the last abortion there had been a continuous bloody discharge from the vagina. The patient was extremely anæmic, and was too weak to walk. When examined, in the Montreal General Hospital, there was severe pain in the hypogastric and inguinal regions. A soft movable mass, the size of a fœtal head at the 6th month, was felt behind the uterus and to the left. The uterus was anteverted. On September 6th, 1893, the abdomen was opened in the middle line and a small elastic tumour attached to the left broad ligament found, which proved to be full of blood and clot. The left tube and ovary were ligated and removed with the tumour. Recovery was good. On examination by Dr. Adami, the tumour proved to be a hæmatoma of the fallopian tube. The external surface of the sac was roughened, inflamed and covered with organized lymph. The inner surface of the sac and contents were carefully examined for fœtal or placental structures, but with negative results. The hæmatoma was evidently of chronic growth and appeared to have developed as a consequence of chronic inflammation and ulceration of the tube.

Dr. Alloway, commenting on the cases, said: It was interesting to know that a cyst of the ovary could become so completely separated from that organ and so simulate a par-ovarian cyst. In the case of hæmatoma the tube was distended to the size of his wrist and was ruptured in removal. It so resembled a tubal pregnancy that he was surprised to find no evidence of a fœtus, but now believed the bleeding due simply to rupture of the blood vessels during tubal inflammation. There was a history of miscarriage six weeks before the operation.

Double Pyosalpynx with Intestinal Fistula.—Dr. Alloway also related a case where the appendages were removed from a woman suffering from severe vaginitis and pelvic peritonitis.

Blood and pus had passed by the bowel. Both tubes were greatly dilated, the left being fully two inches in diameter and filled with pus which escaped into the peritoneum during the operation. The pus was not fœtid and no bad results followed this accident. The right tube was thickened into a dense rigid cord, passing round the coils of intestine. Both tubes were extensively adherent to the intestine and the entire pelvic contents matted together. Between the fimbriated extremity of the right tube and the bowel was a fistulous opening of the diameter of a five cent piece, which was closed by the Lembert-Czerny method. Another opening was discovered in the bowel where the knuckle of the tube had become adherent. The uterus and omentum were utilized in closing this. The extensive hæmorrhage was arrested by pressure. The pelvis was not washed out. There was no rise of temperature for the first week, when there was a slight rise lasting for some days, and accompanied by tympanites. At the present date, nine weeks after operation, she appeared on the road of recovery. Nothing more than a local peritonitis appeared to have followed the operation, although some fæcal matter must have escaped into the peritoneal cavity. A glass, and later a rubber drainage tube was used. At first some pus, but no fæces passed through these. Starvation diet, with rectal injection to relieve tympanites were employed. Pyoctanin and peroxide of hydrogen were used as antiseptics.

Discussion.—In answer to Dr. Gordon Campbell: There was no evidence of fæces passed per vaginam. To Dr. Armstrong: The omentum was simply brought down, not sutured.

Cholecystotomy.—Dr. Armstrong exhibited a large solitary gall stone removed in September, 1893, from a woman aged 42. Ten years ago she had her first attack of severe pain, with jaundice, in Harrogate Hospital, England, when an operation was suggested but declined. Since then she had attacks of biliary colic with jaundice about every six months until the last two years, since when they occurred monthly, lasting two weeks at a time. Pain, severe in hypogastrium and right hypochondrium, requiring morphia. The gall bladder contained some pus, its walls were strong and readily sutured, and it was long enough to reach the abdominal wall. On palpation no stone could be felt in the common or cystic ducts. Recovery

uneventful, the only unfavourable point being the persistence of the sinus, although there was satisfactory evidence of sufficient bile in the stools. If the loss of bile proved injurious to health the only operation feasible would be that of establishing a communication between the gall bladder and the small intestine, as has been done in one case by McBurney.

In answer to Dr. Lafleur: She had no febrile attack while in hospital, but said herself that some of the previous attacks made her feverish.

Dr. F. W. Campbell wondered at the excessive pain in this case. Pain usually arose from small stones passing along the duct, and in his opinion comparatively small stones gave him the most pain. It was comforting to think that if serious symptoms of obstruction arose, surgeons could now afford permanent relief by operation.

Dr. Lockhart recalled an operation he had witnessed on a woman of about 50, when only two stones were found, one of which had two facets, having possibly been turned end for end. The other stone had three facets.

Dr. Jas. Bell thought the contraction of the gall bladder upon a large stone would easily account for the pain. With renal calculi very large stones often caused no pain, while intense agony was produced by very small ones. In one case a large gall stone was passed by the bowel which must have ulcerated through from the gall bladder.

Dr. Armstrong asked if Dr. Campbell's first attack was more painful than subsequent ones.

Dr. Campbell replied that such was not the case. He thought the pain, as a rule, was only produced when the stones entered the ducts.

Cases of Infection in Pneumonia.—Dr. Gordon Campbell communicated three cases of infective pneumonia in a family. (See page 652 of the Journal.)

Dr. F. W. Campbell stated that when the theory of the infective nature of pneumonia was first brought out 10 years ago he found that he and the late Dr. Howard were treating between them seven cases where the disease appeared to have been transmitted by direct infection.

Dr. Morrow had recently had a fatal case of pneumonia in an old man, who was being nursed by his sister. At his second

visit the sister was noticed to be breathing fast. She became very ill and died suddenly a few hours later.

Dr. Jas. Bell had reported a case to this Society ten years ago. A hospital orderly lived in a small upper tenement on Mignonne street, with his wife and wife's brother. The latter came home one day with a very severe pneumonia. Two or three days later the orderly was stricken with pneumonia and within a few days the wife also took sick with the same disease. The two men died and the women recovered.

Dr. Gordon Campbell said that what specially interested him was the fact that the youngest child was in the house all the time for three weeks before taking ill, and was, therefore, not exposed to the same condition as the mother.

Danger of Hypodermic Injection of Morphia.—Dr. F. W. Campbell related the case of an old lady, his own patient, subject to attacks of pleurodynia, for which he was in the habit of prescribing minute doses of opium. In his absence she was seized with severe pain, and a neighbouring practitioner who was called in gave her a hypodermic of morphia. She went to sleep so profoundly that her friends were alarmed. Next day she was found to be suffering from complete paralysis of the bronchial tubes, and the phlegm went on accumulating until she died shortly afterwards. The relief of pain was not the only object to be considered when suddenly called to see a case. A hypodermic needle may be a two-edged sword, especially when used on the aged.

Dr. W. F. Hamilton asked whether the patient was suffering from the old attack of pleurodynia or from pneumonia? How much opium was used in the hypodermic injection? and what cause was assigned in the death certificate?

Dr. Campbell did not remember what cause was stated in the death certificate, but thought it had been certified as grippe. She was not suffering from pneumonia the day previous. He did not know the quantity of opium. The patient largely regained consciousness before she died.

Stated Meeting, January 12th, 1894.

James Bell, M.D., President, in the Chair.

Transient Swelling of the Right Arm.—Dr. James Bell showed the patient, a woman 22 years old, who suffered con-

stantly from a painless swelling of the right arm, extending from just above the elbow to the finger tips, accompanied by slight muscular stiffness of the forearm. There was nothing abnormal in the circulation or innervation of the part. The swelling was first noticed six months ago and diminished when the arm was kept at rest for a few days, but came on again when she began to use it. An exploratory incision on middle third of radius outer border made two months ago, revealed nothing unusual. He was unable to make a diagnosis.

Dr. Armstrong had seen the case and was unable to throw any light on its causation.

Dr. Shepherd thought the condition hysterical and due to mechanical obstruction, surreptitiously produced, to the venous circulation.

Dr. Wesley Mills thought Dr. Shepherd's explanation possible, and had noticed in talking with the patient that she was very ready to adopt and repeat symptoms suggested to her. Engorgment of the capillaries could, however, also be produced through nervous influence. In nervous persons, according to Dr. West, transient tumours sometimes suddenly appear in the region of the axillary artery. The present case might possibly be of nervous origin.

Dr. Gurd had treated the patient for some time on iron without benefit.

Dr. James Bell thought the obstruction must be mechanical, whether produced voluntarily or by something along the course of the veins.

Ruptured Tubal Pregnancy and Appendicitis—Dr. Armstrong exhibited a ruptured fallopian tube with ovary attached. Lying at the bottom of a sort of sac, at the point of rupture was a small object which appeared to be the fœtus. (See pathological report at the next meeting.) The patient, a married woman aged 34, was the mother of seven children. In August, 1893, she had what appeared to be a mild attack of appendicitis. She made a good recovery after ten days in bed and remained well till Nov. 28th, 1893, when she was suddenly seized with severe abdominal pain and slight diarrhœa, and when seen one hour later was in an extreme condition of shock. On removal to hospital her condition was so much improved that the contemplated operation was not performed,

and she was able to return home in ten days. On Jan. 5th, 1894, she was suddenly seized with intense abdominal pain, vomiting and slight diarrhœa followed by collapse, and was operated on to-day (Jan. 12th.) Ruptured tubal pregnancy was suspected in spite of the history of appendicitis in August. The abdomen was found, on opening, to be full of blood. The right tube, which was surrounded by clots and debris, was at once ligated and removed. On Dr. Bell's suggestion the appendix was removed and examined. It was enlarged and, on opening, a blood clot was found in its centre. The diagnosis was made specially obscure by the fact that the menstruation had not been disturbed, except for a pause of a week after the commencement of the October period. The flow was then resumed and went on to its normal term of 4 or 5 days. Although the pathology of ruptured tubal pregnancy has been known since 1814, it is only 11 years since Tait performed his first operation; since which time he has operated on 33, saving all but one, his first case. This fatal result Tait attributed to his neglecting to tie the bleeding tube before cleaning out the abdomen. Intra-peritoneal hæmatocele is specially dangerous as the blood does not clot, but goes on escaping unless relieved by the surgeon. Extra-peritoneal cases were much less dangerous. Dr. Armstrong thought the abdomen should be opened in every case of collapse following severe abdominal pain.

Dr. Gurd referred to a case of his where Dr. Gardner had operated. The pain was intense. The clot resembled black current jelly. The case recovered.

Dr. England mentioned a case seen with Dr. Armstrong, when the presence of blood in the abdomen had been diagnosed from the dull note in the dependant part of the abdomen. The perforation was situated near the uterus. Recovery was good.

Dr. Lafleur had seen a case at the Johns Hopkins Hospital where the presence of blood was revealed by aspiration. Upon operation, the case proved to be a ruptured tubal pregnancy complicated with chronic ulcerative appendicitis.

Dr. Gordon Campbell had seen Dr. Armstrong's case one hour and a half after the commencement of the first attack. The pain was pretty high up, a little to the right of the umbilicus. There was no dulness or tumour.

Dr. Wesley Mills—Intra-venous injection appears to be indicated when collapse is severe.

Dr. Armstrong, in reply, said that in his experience dulness and tumour were only met with in extra-peritoneal cases; when the primary rupture is intra-peritoneal the blood is diffused between the coils of intestine.

Intra-Capsular Fracture of the Femur in a Paralysed Limb.—Dr. Jas. Bell exhibited the specimen and related the history of a man 68 years old, who had been the subject of infantile paralysis. The fracture occurred in the paralysed limb. After eight weeks' treatment by extension with the long splint he was about to be discharged, as there was no hope of restoration of function in the originally useless limb. He contracted a pneumonia and died nine weeks after the accident. The bone did not show the slightest attempt at repair. In a normal state of nutrition considerable attempt at union would be expected after nine weeks immobilization. Absence of union in this case was doubtless due to the paralysis. Dr. Bell thought that even in very old patients sufficient union to ensure a serviceable limb is to be hoped for, and disapproved of the advice given in text books to make no attempt at treatment if very old. In one case of his a lady, aged 94, recovered sufficiently to walk about after nine or ten months.

Dr. Armstrong referred to a case in his practice when a lady 92 years old got sufficiently well to walk about, though no treatment at all was attempted. He asked if Dr. Bell had ever seen bony union in these cases.

Dr. Shepherd thought that the cases which got well were those where impaction was present. It is in cases where manipulation for purposes of diagnosis is employed that the patients never get well, as the impaction is thus broken up. Manipulation should never be used in such cases.

Dr. F. W. Hamilton had been present at the autopsy on Dr. Bell's case. There was a purulent arthritis of the joint.

Dr. Bell fully agreed with Dr. Shepherd's remarks. He had not seen many specimens of bony union in old persons.

Dr. McGannon did not see how a diagnosis could be made without manipulation. He had resorted to it in the case of a woman of 58, and after treatment of a plaster of Paris bandage had secured good union.

Dr. Gordon Campbell referred to Treves sign of a lax condition of the fascia lata on the affected side, as being of great value in the diagnosis of intra-capsular fracture.

Dr. Shepherd thought that a diagnosis could be made by observing the relation of the trochanter to Nélaton's or Bryant's test lines. He would rather make an error in diagnosis than run the risk of crippling the patient for life.

Copper Nugget in the Form of a Skull-Cap.—Dr. Jas. Guerin showed this specimen, found in the Calumet mines, 4,200 feet below the surface. It was stated that near it were found two other pieces of copper, one having the outline of a foot, the other that of a tibia, according to the description of a medical man. The resemblance to a skull was very striking, but if it was a skull how did it get there, and why was it converted into copper?

Dr. Girdwood thought the specimen merely a piece of copper ore.

Case of Belladonna Poisoning.—Dr. Elder was summoned on Dec. 23, 1893, to see a woman aged 45, who was stated to have suddenly fallen in a fainting fit while at breakfast. She was lying down. The face was suffused. There was intense throbbing of the vessels of the neck. The pupils were so dilated that scarcely any iris could be seen. Belladonna poisoning was at once suspected, especially as a liniment of equal parts of extract belladonna and glycerine was being prescribed for another member of the family. It transpired that by mistake a dessert spoonful of this had been taken. A few moments later she said that her eyes "felt as if dropping out." She soon became unconscious. Her stomach, which was nearly empty, was thoroughly evacuated with the stomach pump and washed out with four quarts of water. Afterwards half a grain of morphia was given hypodermically, which promptly contracted the pupils. The pulse was at first 160 and breathing rapid, afterwards the pulse became slower but weaker, and breathing deeper and stertorous. Hypodermics of brandy and ether were employed as stimulants. At times respiration almost stopped, but would revive upon pressing the epigastrium. At 3 p.m. at suggestion of Dr. Blackader, $\frac{1}{30}$ gr. nitrate of strychnine was given. At 6 p.m. she had recovered consciousness and was able to pass her urine. After this her recovery was rapid.

On the following day, while breathing near her husband's eyes, he declared that he suddenly became blind. His pupils were certainly dilated, possibly from absorption of the drug exhaled by the patient's lungs. One of the hypodermic punctures produced a slough.

Dr. Blackader thought the recovery due to the prompt treatment and the nature of the mixture. The presence of so much glycerine would delay absorption. There was not an exact antagonism between opium and belladonna, and the use of either as an antidote for the other should be made very cautiously for fear of an overdose, as both opium and belladonna in large doses acted as cardiac and respiratory depressants. Dr. Wood thinks that the consecutive use of several drugs having the same action is preferable to a single physiological antidote. He did not advise the use of pilocarpine in the present case, as it would not stimulate the respiratory centre. We have no drug which will exactly cover the symptoms of another drug.

Dr. DeCow mentioned a case of poisoning by cedar oil, where the symptoms were weak pulse, unconsciousness, rigidity of the muscles of the jaw, and epileptiform convulsions. The stomach was emptied and hypodermics of ether and brandy given. One case of this form of poisoning has been recorded.

Dr. F. W. Hamilton related a case of belladonna poisoning when a dose of belladonna linament was given by a nurse. An emetic of mustard produced prompt emesis. Two hours later the only symptoms remaining were slight dilatation of the pupils and dryness of the throat.

Dr. Proudfoot referred to a case of belladonna poisoning from application of atropine to the conjunctiva. Personally he once by mistake took an overdose of a belladonna and bromide mixture while suffering from whooping cough. Blindness, giddiness and faintness came on, but passed off in three hours without treatment.

Dr. Girdwood asked Dr. Elder if there was suppression of urine.

Dr. Wesley Mills reported some mild cases of atropine poisoning which had recovered without treatment. In one chronic case polyuria was noticed. In the dog's heart atropine prevents vagus inhibition and pilocarpine restores that func-

tion. Further experiments upon the antagonism of the two drugs were needed.

Dr. Gordon Campbell had seen a case of poisoning in a child from application of atropine to the conjunctiva.

Dr. Elder, in reply—The quantity of urine was not measured. There was no suppression. The symptoms may have been modified by the morphine given. There was no rash on the skin and no delusions. Until the physiological action of atropine was experimentally worked out, the treatment of such cases must remain experimental.

Stated Meeting, January 26th, 1894.

Dr. James Bell, President, in the Chair.

Suture of Tendons of the Hand.—Dr. Bell exhibited a man on whom he had operated four weeks previously. The patient had fallen through a plate glass window and cut the tissues of the palm and wrist severely, the superficial and deep flexor tendons as well as the ulnar vessels and nerves being severed. Owing to an interruption, the divided ulnar nerve was overlooked at the time. The wound was therefore re-opened next day and the nerve sutured, perfect sensation in the fifth and inner side of the ring finger being obtained. Sufficient movement was now present in the hand to show that the action of the tendons was fully established. In repairing the injury, the superficial and deep tendons had been sutured separately, but Dr. Bell believed the result would have been just as good had the cut ends simply been united *en masse.*

Factitious Urticaria.—Dr. Gordon Campbell showed a man in whom he had detected this condition accidentally while examining the chest. The slightest scatch brought out distinctly raised reddish wheals within less than five minutes. This was demonstrated before the Society. The condition was most marked in the skin of the back, but was also present over the chest, abdomen and limbs. Dr. Campbell stated that the rareness of this condition was probably largely owing to the fact that, as in the present case, the patients were not inconvenienced by it, and therefore not aware that they suffered from it, and it was only discovered by accident.

Dr. Foley considered the disease one of the commonest skin affections.

Dr. Orr asked if the patient had shown evidences of being subject to the ordinary mettle rush.

Dr. Campbell replied that the man was not aware that he ever had any skin disease at all.

Induction Coil for Utilizing the Ordinary Electric Light Current for the Thermo-Cautery.—Dr. Lapthorn Smith exhibited an apparatus invented by Mr. Shaw and manufactured by the Montreal Electric Company. The instrument can be connected with the socket of any incandescent lamp by simply screwing in a plug. The current can be regulated with ease and arranged so as to heat the platinum knives or loops to any degree required. There was no possibility of dangerous electric shock being given. The apparatus was very cheap, costing only $20.00, the current costing 1½ cents per hour. The apparatus had been employed with satisfactory results for the last two years by several Montreal physicians, but not being aware of this Dr. Smith had nearly invested in a much more expensive apparatus made in New York, and so wished to save other members incurring a useless expense.

Dr. Shepherd read a paper upon "The Curative Effects of Exploratory Laparotomy," which is published at page 641.

Discussion.—Dr. Smith thought the curative effects were due to the improved nutrition resulting from stimulation of the peritoneum at the time of the operation.

Dr. Wm. Gardner had seen excellent results follow exploratory laparotomy in two cases of tuberculous peritonitis. These were already reported to the Society. In a case of grape tuberculosis of the peritoneum he recently reported, the patient was in no wise benefited, but this case had advanced pulmonary tuberculosis as well, which would alter the prognosis. He doubted whether malignant disease of the abdomen was benefited by this operation, and had never himself seen any improvement in such cases.

Dr. Johnston asked if the patient had been informed of the negative result of the operation.

Dr. Springle suggested that the improvement in Dr. Shepherd's case might be due to the application of the cautery to the liver. He wished to know what time had elapsed in Dr. Shepherd's cases as in a recent case of reported cure of malignant disease by laparotomy there was a subsequent relapse.

Dr. Wesley Mills said that he had a theory explaining the beneficial results in these cases which he hoped to bring before the notice of the Society at some future time.

Dr. Jas. Bell stated that he was sceptical with regard to the curative effects of laparotomy. In cases reported as having got well the diagnosis was usually obscure, and this was true of Dr. Shepherd's case. He wished to ask Dr. Shepherd if he had ever known of a case, in his own experience or that of others, where a tumour of undoubted malignancy had disappeared as a result of exploratory laparotomy. In malignant disease the symptoms were sometimes temporarily arrested after a laparotomy. Tuberculous peritonitis was a self-limiting disease.

Dr. Shepherd, in reply, said that the patient was informed of the fact that nothing radical had been done at the operation. The cauterization had been so slight that it was impossible to believe it had any influence at all. He had not intended, in his paper, to introduce the question of the curative effects of laparotomy in tuberculosis. He had seen cases which improved after laparotomy, but thought they would have got well in any case. The operations had been done because the disease was believed to be something else. He thought Dr. Bell had misunderstood his statement as to the relations between exploratory incisions and malignant disease of the peritoneum. He did not assert at all that malignant disease had been cured in this way. On the contrary, he had said that Mr. Tait's case would be much stronger if a microscopic examination had been made. Still, those deficiencies in the evidence do not explain away the fact that something does take place. Tumours have disappeared—not malignant ones, perhaps,—and processes which had previously invalided a patient have been arrested. In his own case a piece of the tumour was not taken for examination simply because its great vascularity rendered severe bleeding likely. Of the other cases referred to, in a good many the improvement had persisted for several years; in others a few months only had now elapsed. It was hard to say if the arrest of malignant disease after operation was due to the operation. He would like to hear the new theory which Dr. Mills had referred to, even if only a partial statement could be given.

Dr. Wesley Mills considered it unsatisfactory to bring forward new views without having at hand sufficient evidence to support them. He might say, however, that he would explain the matter by *reflex*. He thought we explained too little, rather than too much, by this agency. For his part he believed life itself to be a reflex phenomenon. In the question under discussion the reflex acted on the blood vessels, the cells, and in fact on the whole metabolism. He disagreed with the agnostic standpoint taken by Dr. Bell.

Hæmorrhagic Typhoid.—Dr. Adami brought forward the results of an autopsy, presenting a peculiarly rare condition, performed upon a patient æt. 19, who had been admitted to the General Hospital in November with empyema, under Dr. Molson, had been transferred to the surgical wards under Dr. Bell, and there had been operated upon, a silver drainage tube being inserted. The empyematous condition under daily drainage improved greatly, but the patient continued weak, with indications of pneumonic disturbance of the left lower lobe. A week before death symptoms of peritonitis supervened, with eventual diarrhœa, incontinence of fæces and great distension of abdomen. The patient died eight weeks after admission. The continued emaciation aroused suspicions of tuberculosis, while the septic nature of the temperature chart, seemed to render it not impossible that the empyema of the lower half of the right pleural cavity had led to a sub-diaphragmatic abscess with subsequent extension and peritonitis.

At the autopsy neither of these conditions was found present; the empyema had healed with firm fibrous adhesion of the lowest lobe to the chest wall. But there were typical evidences of typhoid. The last twelve inches of the ileum contained five ulcers, three of which had undergone perforation, although two of the three perforations were covered externally by thick inflammatory lymph. The typhoid was complicated with hæmorrhages. Petechial and ecchymotic hæmorrhages were found most widely distibuted:—Subcutaneous, (mostly on chest, neck, and upper extremities); along the course of the alimentary canal; gums, tongue, tonsils, œsophagus, stomach, small intestines and large intestines, being particularly numerous in the

jejunum and ileum, and these both submucous and subserous; in the heart, (both subendocardial and subpericardial); in the substance and on the surface of the liver and kidneys; in the right suprarenal (sub-capsular); in the retroperitoneal lymph glands; in the bladder, (both submucous and subserous,) and again in the consolidated lowest lobe of the right lung. There had been a more profuse hæmorrhage into the pelvis of the right kidney. Cultures from the organs gave a preponderance of the coli bacillus.

Dr. Bell said that on Jan. 10th, there was great pain and distension of the abdomen, followed by collapse and subnormal temperature. Perforative peritonitis was diagnosed, but it was thought to be possibly due to the burrowing of pus from the empyema into the abdomen.

Ruptured Tubal Pregnancy—Report on the Ovum—Dr. Adami reported the result of the examination of the specimen, 5.5 mm. long, attached to the wall of the ruptured Fallopian tube exhibited by Dr. Armstrong at the last meeting. It showed very great evidences of degeneration, and all that could be said was that it more closely resembled an embryonic structure than any other object. There were no signs of fœtal membranes surrounding it. Serial sections had been made and showed that the object was bilaterally symmetrical and nourished by a vascular pedicle attached to the wall of the sac. There were no structures which could be distinctly recognized as fœtal organs, although the cell structure as a whole was of distinctly embryonic type. In a normal embryo of this size numerous organs would be recognizable. It was possible that degenerative changes and invasion by leucocytes accounted for the discrepancy. The object was certainly not a tumour or parasite. The inner surface of the sac in the neighbourhood showed papillæ, though no typical chorionic villi were met with.

Dr. Mills referred to some experiments in artificially changing the environment of ova. These had led to astonishing anomalies in the ova. He thought the object in the present case to be an ovum.

Dr. Smith considered that the specimen was an ovum.

Dr. Armstrong remarked that the history of the case was that of a ruptured tubal pregnancy.

Leuchæmia.—Drs. Finley and Adami reported this case. (See page 647.)

Dr. Lockhart had seen the case three days prior to admission; she was lying near a pool of blood which looked normal in appearance. Ice to the epigastrium and perfect quiet were ordered. Later on repeated saline enemata were given with a wonderful improvement each time in the pulse, lasting for half to three quarters of an hour. During the afternoon she had three more hæmorrhages aggregating nearly a quart.

Dr. Lafleur said the number of leucocytes varied greatly at different periods in the history of leuchæmic cases. He asked what were the conditions of the lymphatic glands throughout the body, and of the bone marrow.

Dr. Adami said that the spleen measured 20x8x3½ cm. There was nothing noticeably wrong with the lymphatic glands. The bone marrow showed nothing abnormal. The difficulty in adopting the theory of leuchæmia was that she must in that case have had the disease since infancy.

Atresia of Vagina, Hæmatometra, Hysterectomy.—Dr. Wm. Gardner exhibited the specimen, taken from a girl of sixteen, with a history of violent pain and vomiting occurring periodically at intervals of about three weeks. A firm tumour could be felt in the hypogastrium. No vaginal canal was present, though the labia were normal. As no evidences of a vagina could be obtained by rectal examination, abdominal hysterectomy was done by the method of tying off the broad ligaments. The uterus was found to be greatly hypertrophied and was full of blood, the right tube was normal, and the left distended with blood. The depth of the uterus was from 8 to 10 inches. The blood measured over 1½ pints and had the ordinary characters of retained menstrual fluid. Such extreme conditions were, he believed, extremely rare. The operation was a success.

Aortic Aneurysm.—Dr. E. P. Williams showed this specimen which had been sent by Dr. H. P. Shaw, of Perth, Ont. (See page 657.)

Stated Meeting, February 9th, 1894.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Dr. Robert Wilson was elected a member of the Society.

Purulent Pericarditis with Necrosis of the Sternum.—DR. C. F. MARTIN showed the specimens obtained at an autopsy upon a male infant 17 days old who had died of purulent pericarditis. The labour was premature at 8 months, and the child sickly at birth. There was a sinus in the præcordial region, close to the sternum, leading directly to the pericardial sac, which contained some purulent fluid and flakes of lymph. There was necrosis of the sternum, which appeared to be the origin of the trouble, as the process there appeared of earlier date than that in the pericardium. There was no evidence of syphilis or tubercle and no signs of infection through the umbilical cord. The external portion of the cord had not been detached, but was represented by a small shrivelled body 2.5 cm. long.

DR. EVANS related the history of the case. The parents were both healthy and the labour had been easy. The child was small and sickly at birth, weighing only 3 lbs. 15 oz. On the 5th day it was noticed to be nursing badly; on the 8th a small pimple, from which pus could be squeezed, was noticed over the sternum. On the 13th day an abscess was opened in this region. Subsequently a probe passed into the deeper part of this abscess, entered a sinus leading into the pericardium, and the heart beats could be registered by the movements of the probe.

DR. BELL asked if the incision made in opening the abscess had been continued down to the pericardium.

DR. EVANS replied that such was not the case, the communication with the pericardium had been discovered a day or two later.

Epilepsy—Abscess and Cyst of Brain—Trephining and Exploratory Puncture.—DRS. BELL and ADAMI exhibited the specimens obtained at the autopsy in this case and gave the clinical history. The case will be published in an early number of the journal.

Discussion.—DR. JAS. STEWART had seen the case once in consultation. He thought the results of the post-mortem did not lessen the probability that the symptoms were due to

irritation of the motor area, and thought that the cyst was the cause. After the operation he had thought the diagnosis was wrong, but the autopsy showed that it was right after all. It was not necessary for the lesion to be actually situated within the motor area in order to irritate it. He thought that there must still be some lesion not yet discovered (possibly of the internal capsule) as the cyst would not account for the paralysis. He though the case could not fully be discussed at present as the report was not complete. The electrical reactions were normal.

Dr. Mills thought we were too rigid in our interpretation of what we mean by the motor area, and that it really is a sensori-motor area. The time has come to look for a wider definition which will include such anomalous cases as the present.

Dr. Wilkins said that the ganglion cells of the cord were probably involved as shown by the wasting of the muscles.

Dr. Adami said that it had not been possible to examine the cord. The examination of the brain was not finished as the specimen was not fully hardened.

(The discussion was postponed.)

Calcified Plates from the Pleura in Empyema.—Dr. Adami exhibited some calcareous plates removed from the pleura after resection of the 5th and 6th ribs. These looked like exfoliations of bone, but proved on examination to be merely deposits of calcareous salts in the thickened pleura following empyema.

Dr. Bell—The patient was a man aged 48, who gave a history of a pimple having burst 8 months ago on the 5th intercostal space anteriorly. Since then pus had flowed from the wound. On resecting the ribs there was no appearance of exfoliation, but the empyemal sac, which had a capacity of about one pint, was lined with these bony looking plates. Though the history only dated 8 months back it was possible that the disease had existed unperceived for some months or years. The patient was a tuberculous subject.

Cancer of the Body of the Uterus.—Dr. Wm. Gardner showed the specimen from an unmarried woman aged 55. There was a history of pain and bleeding coming on some time after the menopause, and which had lasted 6½ years. He had seen the

patient 2½ years ago, and found the uterus enlarged. The cervix was normal. Upon curetting, some friable material was obtained which proved to be cancer on microscopic examination. Operation was advised, but refused. The patient afterwards went to Europe and acted as courier to a party of tourists. Ten months ago she was examined and some material which was shown to be cancer microscopically, again removed from the uterus. Consent to operation was again refused, but owing to the severity of the pain and hæmorrhage was afterwards consented to. The operation was through the abdomen as the vagina was narrow and atrophic. There were no adhesions. Near the fundus were two small pedunculated sub-mucous myomata, one of which was partly calcified. Recovery was uneventful.

Dr. Smith thought that in any woman in whom uterine hæmorrhages recommenced a year or more after cessation of the menses the case should be considered as cancer until the contrary was proved.

Albuminuria of Pregnancy.—Dr. Smith showed some specimens of urine showing the rapid disappearance of a large amount of albumen in the urine after delivery. The patient had nearly lost her life a year ago from puerperal eclampsia. Subsequently, on becoming pregnant, her urine was examined weekly, and as it suddenly became to be highly albuminous in the fifth month, in consequence of a slight chill followed by convulsions, labour was at once induced, and the urine became nearly free from albumen in a few days. These cases should never be allowed to go on to full term.

Dr. Spier read a paper upon scarlatina, based upon his observations of 100 cases of this disease. To appear in the April number of the Journal.

Discussion.—Dr. E. P. Lachapelle referred to the severe epidemic of scarlatina now going on in Montreal since October last. The reported weekly mortality was at present 20 to 30, but the real mortality was much larger, as a large number of cases were improperly certified. An inspection made by the Provincial Board of Health showed that the medical profession was mainly responsible for this unfortunate state of affairs, as it was impossible for the health authorities to do anything unless they knew of the cases. In Montreal two

thirds of the physicians never report cases of infectious disease at all. Whether this was because they do not think of it, or do not care, or object to do it, the result is very bad. No one has any doubt to-day as to the contagiousness of scarlatina or the duty of medical men to report cases, if the heads of families, who are also responsible, neglect to do it. If only a few men report they suffer in consequence. If the profession are lax in regard to one contagious disease, they will be so in regard to others. The public is at the mercy of the physician. He hoped the Society would pass resolutions insisting upon the necessity of all cases being reported.

Dr. Lafleur said that he always reported such cases as soon as a diagnosis was made, but that many days often elapsed before the house was placarded.

Dr. Allen mentioned a case where he had attended a patient in a boarding house. Upon the statement of a member of the household, the board of health disinfected the house and removed the placard, although the patient went on desquamating for two weeks subsequently.

Dr. Johnston thought there were too few physicians in the staff of the City Health office. Most of the disinfection and visiting appeared to be left wholly to sanitary policemen without any supervision, hence mistakes were often made. Work of this kind should be carried out under medical direction.

Dr. Kenneth Cameron stated that his experience in this epidemic had changed his previous opinion that scarlatina is a mild disease. His first case was one of the hæmorrhagic form, and was fatal in 6 hours. He thought the infection was largely spread by mild cases which were not diagnosed. He had seen several instances in school children in whom the occurrence of dropsy had first drawn attention to the real nature of the case.

Dr. Buller estimated from the statement made by Dr. Lachapelle, that there must be 500 cases occurring weekly. This probably would give one or more cases in every street in the city. He would advocate stopping the whole public school system, and so calling public attention to the necessity of providing some proper means of quarantining cases. The supineness of the local health board could only be overcome by taking strong measures such as would arouse public indignation.

Dr. McConnell stated that the local health board was not blameless, as for scarlatina patients there was no other provision for conveying them to hospital than the public cabs. Children were allowed to return to school within two or three weeks from the commencement of an attack. The health officer should see to it that such does not occur within at least six weeks. He had little faith in the utility of sulphur fumigation when clothing and bedding were not disinfected by heat. Much can be done to prevent the spread of the disease through a building by the floating particles of cuticle, if antiseptic ointments were used during the period of desquamation. Creolin, carbolic acid, salicylic acid and resorcin may be used, the latter has the additional action of promoting a more rapid peeling, so that this process may be completed one or two weeks earlier than the ordinary period.

Dr. Smith agreed with Dr. McConnell's statements. He made a practice of using carbolized vaseline and giving a hot bath every 24 hours, and tried to promote sweating. He gave copious drinks of water to flush out the kidneys.

Dr. Mills said that whatever were the shortcomings of the local health board we should not take shelter behind them. There had been a serious delinquency on the part of the profession, and we might as well admit it. He would recommend that a deputation of the Society wait upon the City Council and urge the adoption of suitable measures for restraining the epidemic. Most of the cases in school children could be watched through the co-operation of the family physician. To close the schools would produce a panicy condition prejudicial to the community.

Dr. Armstrong—The reason why cases are not reported is that two families out of three object to having it done, and point out that their neighbours' cases are not reported. Placarding is of no use, as intelligent people will warn others of the danger, and ignorant people will pay no heed to it. Nothing was accomplished by the antiquated methods of disinfection which constitute the only resource of the local health board; they make a little stink and do nothing more. Disinfecting was properly done only when the family physician went to the trouble, personally, of explaining how it should be carried out and superintended it himself.

Dr. Lachapelle could not agree with Dr. Armstrong. Two wrongs do not make a right. Whatever might be the faults of the local board, the profession was much to blame. If we, as a profession, had done our duty we would have more right to complain. He approved of placarding, as it was likely that servants would not do their duty in warning people, whereas a placard warned every one of the danger. He did not think the situation was severe enough to warrant such a step as closing the schools, and the well children would run just as much risk at home. The Society might depend upon the Provincial Board of Health doing their duty, however unpleasant it might be.

Dr. Gordon Campbell said that some weeks ago, in a house fumigated by the city health officials, the clothing had not even been stripped off the infected bed. Some weeks later another case developed in this house. In St. Cunegonde absolutely nothing was done when cases were reported.

Dr. Bell, in summing up the discussion, said that if we first took the mote from our own eye we would be better prepared to remove the beam from that of the local health board. While sympathizing with what Dr. Armstrong had said, still even when put in a false position, the members of the profession should be guided by their strong sense of duty, and do all in their power to check the spread of the disease. The present was a good time for the Society to express itself strongly to the incoming municipal council. It was simply disgraceful that Montreal had no place for quarantining scarlet fever, and through the absence of such a place we were now losing 50 lives weekly, not to speak of those who were afflicted with life-long consequences in the shape of affections of the ears, or kidneys. He would suggest that the matter be referred to the council, with power to add to their number and instructions to act.

Upon motion of Dr. Mills, it was unanimously resolved that the council should associate themselves with Dr. Lachapelle, and should take whatever action appeared necessary.

Selections.

Fracture of the Upper Extremity of the Humerus Complicated with Dislocation.—In dealing with this subject in the *Fort Wayne Journal of the Medical Science*, Dr. C. B. Steneen says that the ordinary procedure of putting up the fracture in a temporary dressing and then reducing the dislocation, is frequently a failure, and besides grave injury may be done by the fractured ends of the bone to the soft parts. He instances a case of rupture of the brachial artery in an attempt to reduce an old dislocation. His method is to cut down on the fracture, grasp the bone with a lion-jawed forceps, which gives leverage sufficient to make the necessary manipulation to reduce the dislocation. The technique of the operation as he gives it is:

Take all the necessary antiseptic precautions, cut down to the point of fracture, making a free incision, cutting away the muscles so as to afford ample room for the easy application of the forceps; then grasping a firm hold, make the usual manipulation with extension and counter-extension with pressure. After the reduction, dress the wound in the ordinary way, and apply to the fracture a permanent dressing.

Unconscious Delivery.—The following case is reported by Dr. Gabriel Gorin in "The Annals of the Medico-Chirurgical Society of Liège." It occurred in a woman pregnant for the third time and about full term. The pains had been intermittent in character and had continued for three days, but very little advance had been made. The waters had not come away and the cervix was only dilated to about the size of a silver dollar. Examination showed a vertex presentation in the first position. The woman feeling a desire to defecate was allowed to rise and sit on the vessel, the membranes having been found intact just previously, and the head still slightly movable at the superior strait. The vessel was about 16 inches high and half filled with water. Scarcely had the woman seated herself thereon when she was seized with a severe colic and something was heard falling into the water. The doctor and nurse endeavored to raise the patient but she

refused, pretending that she still had the desire to evacuate the bowels. Nothing, however, coming, at the end of about a minute she was forced to rise, and to the astonishment of all an infant was seen, apparently dead, the head being submerged in the water. The cord was not torn and the placenta not expelled, but while carrying the mother to the bed a strong pain came on and the secundines were delivered. The infant was restored by artificial respiration. It was a boy, well formed, and fully 8 months. There was no sign of fracture of the skull, but the infant bled copiously from the nose during the afternoon and died the same evening.

The author recalls a somewhat similar case, to which he had been called by a confrère who saw him passing the window. The patient had borne four or five children and never had any difficulty, but this labour proved tedious, the pains being weak and infrequent. Half an hour previous to his arrival she had one short sharp pain which caused her to cry out, but nothing more. On proceeding to make an examination he found the head of the child protruding between the thighs of the mother, who had suffered some slight inconvenience since the last pain, but had no suspicion that the child's head had been born. The body was speedily extracted and the child resuscitated.

Such cases have an important medico-legal bearing as showing that a woman may be delivered unconsciously. In both these cases there was no reason or desire for any concealment, nor to cause any injury to the child, but the reverse. Had there been any such reason or had there been no witnesses, it might have proved very serious for the mothers.

The Hypodermic Injection of Sulphate of Magnesium as a Purgative.—In 1873, M. Luton, made the statement,* that ten centigrammes of Sulphate of Magnesium injected under the skin, regularly produced purgation. Claude Bernard had previously stated that when injected into the vein Epsom Salts produced a purgative effect.

These statements appear to attract but very little attention

* Trousseau and Pidoux, Therapeutics, Vol. 2, page 165. Wm. Wood & Co, 1880.

on the part of clinicians and slight notice is given to them in works on Therapeutics. However, Dr. C. Wood (Therapeutics; 8th edition, 1891 : page 722) makes a slight reference to the former, although considering the practice a very doubtful one.

Dr. Matthew Hay, who has contributed so much to our knowledge of the physiological action of the saline purgatives, asserts that the Sulphate of Magnesium and Sodium do not purge when injected into the blood, or subcutaneously. In the latter case, he makes an exception in cases where in virtue of the injection a local irritation of the abdominal subcutaneous tissue is produced, " which acts reflexly on the intestines, dilating their blood vessels, and perhaps stimulating their muscular movement." Dr. Hay also states that when injected into the blood, Sulphate of Magnesium is powerfully toxic to the system, " paralyzing first the respiration and afterwards the heart and abolishing sensation, or paralyzing the sensory motor reflex centres."

The dose that M. Luton used, and found to act as an effective purgative was ten centigrammes, equivalent to 1.54 grains. Acting upon a suggestion of Dr. Rohé, the superintendent, to subject the question to a further clinical observation, forty-six patients were selected, who suffered from habitual constipation and required from 2 ozs. to 3 ozs., of a saturated solution of Magnesium Sulphate to produce one or more free movements of the bowels.

A two per cent. solution of Empson salts in sterilized water was used. The hypodermic syringe employed had a capacity of two drachms, and when not in use, was kept in carbolized oil. Just previous to use, the needle was sterilized by steam. The dose varied from 1.86 grains to 4.5 grains. The smallest dose was first tried, and at each subsequent injection was increased one-half grain, in order to determine whether a slight increase in the dose would cause a free evacuation. It was found that the small dose acted as efficiently as the slightly larger.

In only one case was the largest dose (4.5 grs.) employed. This was a woman in whom 2 ozs. of a saturated solution of

Magnesium Sulphate had previously failed to produce a movement. The subcutaneous injection caused a free evacuation in seven hours.

The site of the injection was the left arm, at the outer aspect midway between the elbow and the shoulder. In none of the cases was there any local reaction at the point of injection. A small swelling or slight tenderness was produced by the distension of the connective tissue which disappeared in a few hours. No induration or abscesses occurred, and the slight discoloration of the skin passed off in a day or two.

The injection was made 100 times in the 46 patients, and was successful 67 times or 67 per cent. and failed to act 33 times or in 33 per cent.

In 53 injections it produced one evacuation of the bowels ; in ten, it produced two movements, and in four it produced three evacuations.

In only two patients were the injections a constant failure and both of the patients were of the class of melancholia with habitual constipation, who resisted nearly all purgatives.

In nine cases, the injection of 1.15 grs.—one-half the average dose—was repeated in one hour and caused two evacuations in five cases ; in one, three movements ; in two, one ; in one, failed to act at all. This action shows that a small dose repeated in a short time has a better effect than one single dose of larger size.

In ten selected cases a comparison was made between the hypodermic injection of Magnesium Sulphate and the exhibition of a saturated solution by the mouth. In seven cases, or 70 per cent., the injection produced free evacuation ; whereas one oz. given by the mouth acted in only three or 30 per cent.

The shortest time for the injection to produce an evacuation was three hours ; the longest fourteen hours—the average being seven hours.

As to the consistency of the stools—4.5 may be said to have have been watery, resembling those produced by a free saline purgative ; in 11 they were mucilaginous in character, and the remaining 11 were the ordinary stools.

No action was noticed upon the general system following the injection.

In 50 injections noticed ½ hour after the injection, no rise in temperature, pulse or respiration occurred.

The indications for the use of the drug by hypodermic injection are obvious. In cases of gastric inflammation, where a purgative is required and the stomach rebels ; in abdominal surgery, where a purgative by the mouth is apt to cause vomiting and in cases where the patient is unconscious, and unable to swallow, as in apoplexy, the hypodermic use of this purgative would be valuable.

In none of the 46 cases did such indications arise, but the work was done as an experiment and to demonstrate the value of the drug as a therapeutic agent when given subcutaneously. No explanation is offered as to its physiological action. That it does act when so given is a fact.

The effect could not be attributed to suggestion, as the patients did not know with what object the injections were made ; besides, insane patients are notoriously difficult to influence by suggestion.

As stated before, the injections were always made into the arm, so that the aid of reflex irritation, in the sense of Matthew Hay, cannot be invoked in explanation.—*Percy Wade, M.D., in The Med. and Surg. Reporter, Jan.* 27, '94.

Dr. J. S. Billings on the Effects of his Occupation upon the Physician.—The word "profession," as applied to medicine, refers to the existence of a body of men who profess, or publicly claim, that they have special knowledge, the result of which, in the shape of advice, and, in some cases, of manual skill, they offer to the public. It is understood that the relations which a professional man holds to his clients, to his professional brethren, and to the public at large, are somewhat different from those which exist among laborers, mechanics, and tradesmen. Some of the requirements based upon these relations—such as the really having the special knowledge and skill claimed, and the obligation of secrecy as regards the affairs of his clients—are truly

ethical ; others are merely matters of custom and manners, and pertain to etiquette rather than to ethics.

For example, it is a fundamental principle of professional etiquette that it is improper to ask the public or individuals to give one employment, except in so far as such a request is implied in a simple notice, giving name, profession, and office hours. As I have said elsewhere :—

" The ordinary forms of business competition, by advertising the qualities of one's wares, or cheap prices, or by calling attention to superior results obtained, are not permitted to the professional man, so far as the public is concerned. He not only may, but should, publish accounts of his work when this involves anything new and useful to his profession, because this is for their benefit ; but such publication should be made in a professional journal, and not in the daily press, because in the latter it would be practically an advertisement."

There is nothing essentially immoral or unethical in advertising, so long as the truth is adhered to ; but when a physician subscribes to, and agrees to abide by, the regulations of a certain code which among other things, forbids such advertising, it then becomes unethical to break such agreement. This is the reason why codes are framed ; in order to exercise a certain amount of compulsion upon those who subscribe to them. Obedience to such a code becomes a habit, and produces a disposition to consider all the prescriptions of the code as being in themselves ethical, or resting on ethical grounds ; and that any man who acts otherwise is acting wrongly and unethically, although he has never subscribed to the code and is not bound by it. Many physicians gradually come to consider their code of medical etiquette as a sort of formula of religious faith, and are almost as much shocked at propositions to change or to abandon any part of it as they would be at a suggestion to change the Ten Commandments, and perhaps it is well, upon the whole, that this should be the case.

The occupation of a physician in general practice influences his habits in several ways. I will specify but a few. First, it tends to make him cautious in the use of intoxicating drinks.

Not only are the evil effects of excessive use of alcoholic fluids brought to his notice almost daily, but he knows that it is never safe for him to drink enough to cloud his judgment or to affect his speech or gait. He never knows but that he may be called the next moment to see an important case, and he does know that even a suspicion that he is under the influence of alcohol when thus called upon will seriously injure his business. In the second place, his work cultivates the habit of self-sacrifice. However much he may try to adjust his daily round to suit his own convenience, he must continually obey calls which seriously interfere not only with his pleasures and social enjoyments, but his comfort, and sometimes with his health. He must turn out from his comfortable bed on cold and rainy nights ; he must miss his meals ; he must give up the little excursion he had planned ; he cannot plead a headache, or a cold, or weariness, as a sufficient excuse for declining to obey a call from one of his patients.

This self-sacrifice becomes habitual ; he does not question, and doubt, and hesitate as to whether he might or might not properly refuse, but under ordinary circumstances simply obeys—and it does not even occur to him that there is anything specially praiseworthy in his doing so.

It is a common idea that the practice of medicine tends to blunt the feelings—to make one less sympathetic with suffering, and also to induce a comparatively low view of human nature—owing to the many weaknesses, immoralities, and even crimes with which the physician necessarily becomes acquainted. It is true that the physician knows of many private skeletons carefully closeted, the existence of which the world does not suspect, and in this respect he is like a priest ; but he also becomes acquainted with much self-sacrifice, devotion to duty, and love which is stronger than death, which are equally unknown to the public, and upon the whole I do not think that his work tends to the atrophy of his emotional faculties, although it may sometimes lead to their exercise in somewhat special directions. He sees many cases in which what most people call vicious and even criminal manifestations appear to him to be largely due to

physical abnormity or disease, cases of periodic drunkenness, of reckless licentiousness, of weakness of will-power, of morbid conscientiousness, and the like, for the evil tendencies and results of which he can hardly hold the persons mentally and morally responsible. It becomes natural to him to consider such manifestations with less aversion, and to be less severe in his condemnation of the individuals in whom they appear, than most people are inclined to do; in other words, he becomes more charitable in his interpretation of motives.

The physician is called upon sometimes to decide very difficult problems in the matter of giving truthful answers to the questions which are asked of him. In a certain number of cases the great majority of, if not all, physicians will decide that it is their duty to give a false answer, or at all events to give a false impression—either for the purpose of avoiding the immediate danger to the life of the patient which a true statement to him might produce, or for the purpose of preserving secret certain information of which he has come into possession in the course of his professional work. I do not think that this tends to lower his standard of accuracy and truthfulness in other matters; but it does tend to make him more independent of the literal verbalism of a creed, and more ready to rely on his own judgment in certain ethical matters. On the other hand, much of the work of a physician tends to make him critically accurate in the observing and noting of phenomena, and in the application of remedies. The use of apparatus for counting, weighing, and measuring, which will give results independent of the personal equation of the user, is one of the characteristics of modern medicine. The doctor does not ask whether the patient has fever, but "what is his temperature?"

This habit of precision and accuracy is increased by the necessity for punctuality in the daily work of a busy physician. His appointments with his patients and with the physicians whom he is to meet in consultation must be kept if he is to succeed, and his time must be portioned by minutes.

The fact that physicians serve the poor without pay exercises a very considerable influence upon the development of their

moral character. Undoubtedly much of this service in the earlier part of a physician's life is given for the sake of the experience which he thus obtains, but it is also true that the doing of this makes it a habit, and, as Dr. Weir Mitchell says:—

"The virtues which grow to be thoughtlessly habitual are none the less virtues. We tell the truth, are honest, are just, or punctual because the qualities in question have grown to be a part of us. At last they exact no effort, involve no indecision, and above all, no self-praise."

The study and practice of medicine do not necessarily make a man virtuous, or honest, or a gentleman; in a few cases, as shown by the records of the courts, the special knowledge and opportunities of the physician may have led men to commit crimes which they would not have attempted if they had not been medical men—but, fortunately, such cases are very rare.

In the great majority of cases the special influence of the medical life of the present day is to broaden the views of the man who lives it, to make him independent in judgment; rather skeptical as to the occurrence of the millennium in the near future; quite incredulous as to the truth of the maxim that "all men are born free and equal;" more inclined to consider and perform the immediate evident duty of the day and hour which lies just before him than to reflections upon the errors of other men; free from morbid fear of death, and of that which comes after death; and none the less a believer in the existence of a Supreme Being and in the fundamental principles of religion, although he may not consider them capable of scientific demonstration.—John S. Billings, in the *International Journal of Ethics*.

THE

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REPORT OF THE PROVINCIAL BOARD OF HEALTH UPON THE PRESENT SCARLATINA EPIDEMIC.

The very full and careful report, prepared by Dr. Beaudry, Inspector of the Provincial Board of Health, and transmitted by the Board to the City Council, contains much that offers food for reflection.

According to the report the epidemic began in October last with 75 cases. In November there were 148 cases, in December 210, and in January 315. There were 19 deaths in October, 32 in November, 71 in December and 88 in January, making a total of 748 cases and 210 deaths, or a mortality of 28 per cent.

These figures refer to the reported cases, and do not, it is stated, represent the real number, which was probably twice as great, as more than one-half of the physicians practising in Montreal do not comply with the regulations calling upon them to report all cases of infectious disease to the Health Office and many deaths really due to scarlatina are certified as being due to other causes. In two schools visited by Dr. Beaudry, fifteen pupils were absent, and inquiry at their homes showed that five of them were ill with scarlatina, none of the cases having been reported. The excuse given by physicians for not reporting cases, is that the families do not like it, and in case it is done, are likely to employ other physicians. The heads of families are nominally responsible, under pain of a fine, for reporting cases, but we are told that they neither do this nor

suffer any penalty in consequence. The report states that even when cases are not spontaneously reported, the Board of Health could do much by systematic visits at weekly intervals to schools, asylums and other institutions. Placarding of infected houses is not always done on the day when they are reported, and the placards are placed inside the porches where they are not conspicuous.

Isolation is neither directed, nor superintended, nor controlled by the municipal health authorities, and in most cases there is no isolation at all. Disinfection is done, as a rule, too soon, before the period of infection is over. What is particularly needed is a special hospital for the treatment of contagious diseases. People would, no doubt, desire at first to keep their children at home, but their prejudice would be overcome upon hearing that the household regained its liberty and freedom from care when the case was removed, while the patient would receive better care and treatment than was possible at home. The disinfection is stated to be badly done. Sulphur fumigation, the method exclusively in vogue here at present, is not the best means, steam, boiling water, or solutions of bichloride of mercury being much more efficient. The persons in the house and their personal clothing should also be disinfected, and temporary accommodation provided for families whose houses are undergoing disinfection. This is not the case at present.

The danger of public funerals and religious services in churches after deaths from contagious diseases is fully explained in the report.

In conclusion the following recommendations are made :—The health authorities should enforce the regulations relating to notification. A circular of instructions should be issued stating the measures to be taken to prevent infection. Regular visits should be paid to all schools and public institutions. The local Board of Health should provide an efficient disinfection service, and for scarlatina at least 28 days should elapse previous to disinfection. Steps should be taken to establish contagious disease hospitals. The danger of bringing infected bodies into churches should be represented to the religious authorities. The staff

of the Health Department should be recruited from among the best medical men obtainable.

This report is not cheerful reading, but unfortunately it is only too true, and the medical profession of Montreal has known all along that this state of affairs exists. The worst feature of all is the apathy shown by the greater part of the medical profession in not promptly reporting their cases of contagious diseases, as isolation of one case means the prevention of several others. The excuse that the notification has to be made within too short a time is not valid. Once a diagnosis is made, a post-card or telephone message does all that is necessary. Neither do we believe that when the public necessity of notification is explained to the heads of families, they would raise any serious objections. A physician who knowing a case to be contagious neglects any reasonable precaution to prevent its spreading, becomes responsible for conduct analogous to that of consciously conveying infection to a woman in the puerperal state—yet who would dream of doing that?

The real underlying reason for this neglect of an obvious duty was probably correctly given at the recent discussion on this subject before the Medico-Chirurgical Society, when it was stated that absolutely no practical result was obtained by reporting cases, as no efficient disinfection is done, and the inspections are made by ignorant sanitary policemen.

The city, it appears has disinfectors but disinfects not, incinerators but incinerates not, and appears wholly taken up in the all-absorbing task of collecting such vital statistics as bear on questions of race and religion. The city has been in possession of good modern steam disinfectors since 1892, but has not yet arrived at the point when it is ready to disinfect anything. This unaccountable delay is certainly discouraging, but there is nothing to prevent our hospitals from establishing disinfecting establishments and doing the work themselves. The outlay would not be great, and it would certainly soon result in an actual economy by reducing to a minimum the number of cases of infectious disease in the city.

Most epidemics have been found to eventually save more

lives than they sacrifice, and if the present outbreak of scarlatina leads to our obtaining, without further delay, sanitary advantages which would otherwise be indefinitely postponed, it will have served a useful purpose. We earnestly hope that such may be the case.

THE PATHOLOGY OF SCARLATINA.

Opinion at the present time among those engaged in the study of this disease would seem to be tending decisively towards the throat, and more especially the tonsils, as the primary seat of the scarlatina virus. This is the view brought forward by Dr. Dowson in a most able thesis delivered at Cambridge, and the same view is being expressed by bacteriologists, who, like Dr. Bergé*, look upon the disease as due to the local action of streptococcus. The affections of the tonsils according to these observers precedes (as we think has been and must be generally acknowledged) the appearance of the rash ; it is a matter of common knowledge that during epidemics of scarlatina, or in households where one or more members are prostrated by the disease, cases may occur of sore throat, simulating that of the fully developed malady, but unaccompanied by any cutaneous eruption, and many observers hold that such sore throats are distinctly infectious. Whether here we have to deal with the action of a streptococcus resembling that of erysipelas, if not a variety of the same, as Bergé holds, is a matter that has still to be confirmed. There is, however, not a little truth in the contentions of this observer that the complications of the disease are so frequently associated with the presence and action of streptococci, that there is a curious connection between scarlatina and puerperal septicæmia (this being frequently due to a streptococcus) and that there is a similarity between the scarlatinal and erysipelatous erythemata. It may be, however, not that the disease is due to a streptococcus, but that it predisposes to the invasion of the tissues by this micro-organism. It is premature, as yet, to make any absolute statement upon this matter.

* Bergé, Union Médicale, Dec. 30th, 1893.

Be this as it may, there would seem to be not a little force in the suggestion that in the tonsils is to be found the prime seat of scarlatina, and the practitioner may, we think, be safely recommended to observe whether attention to the conditions of these organs in the earlier stages of the disease leads to an amelioration of the symptoms. *A priori*, it is not to be expected that mild antiseptic lotions applied to the tonsils should cut short the course of the disease, but it is not impossible that the treatment suggested might lessen the incidence of pulmonary and other complications, and might give to the malady a milder character.

THE APPROACHING CHOLERA CONFERENCE AT PARIS.

The Extinction of Cholera.

M. Hanotaux, Minister Plenipotentiary, Director of the Consulates of France, and delegate of France at the forthcoming International Cholera Conference at Paris, has stated to a representative of the French press, in a published interview, the precise object and anticipated results of this Conference. The Conference, he states, will occupy itself with tracking the cholera to its seats of origin—that is, Asia and India, dealing especially with the Meccan pilgrimage ; the principal question laid before the Conference is to find thus " the examination of the Asiatic origin of cholera, and the measures to be taken relating to the defence of Europe against this scourge." Without prejudging the results, M. Hanotaux has reason to hope that the Sultan and the Czar of Persia will assist in arresting the development of cholera at its Asiatic ports of entry and posts of reinforcement. " The English," he observed, " are especially interested, since they hold both ends of the inlet and outlet, India and Egypt."

The following are the delegates. For France : MM. Barrère, Hanotaux, Brouardel, Proust, Monod. For Germany : MM. von Schœn and Mordtmann. For Austria-Hungary : Count Kuefstein, Dr. Hagel, Dr. Karlinski. For the United States : Drs. Edward Shakespeare, Stepton Smith, and Preston Bail-

hache. For Greece : M. Criésis and M. Vafiader. For Italy : The Marquis Malaspina and Dr. Pagliani. For Portugal : M. Navarro. For Sweden and Norway : M. Duc. For Turkey : Turkan Bey, Nouri Pasha, Bonkowski Pasha, Dr. Hamdy Bey. For Persia : A delegate nominated by the Minister of the Shah in Paris. For Egypt : Achmet Choukry-Pasha, M. Mieville and Sedky-Pasha.

We have received a copy of the proceedings of the Eighth Annual Meeting of the Association of Executive Public Health Officers of Ontario, held in June, 1893. The proceedings contain much that is interesting reading, and reflect credit upon the association. The papers are upon matters of real practical importance, water supply and the prevention of contagious diseases receiving the most attention. Much of the material contributed is solid and good, though there seems to be rather a scarcity of laboratory work, and a decided tendency to draw sweeping conclusions from rather meagre data. For instance, a single chemical analysis of one sample of a projected water supply for the City of Toronto is stated, in the opinion of a prominent official of the Ontario Board of Health, to conclusively settle the question of its purity and suitability for that purpose.

We hope to refer in a future number to the individual papers read before the association.

Obituary.

THEODOR BILLROTH, M.D.—Surgery has lost one of its greatest exponents in the death of Theodor Billroth, professor of surgery in the University of Vienna, which took place at Abbazia, from disease of the heart, on February 5th.

He was born at Bergen in 1829, and graduated in medicine from the University of Berlin in 1852, becoming *Privat docent* in the same university in 1856. In 1860 he was called to Zurich as professor of clinical surgery, and in 1867 succeeded Franz Schuh as professor of surgery in Vienna. Here it was that most of his work was done. Here he first excised the larynx for cancer. Here he resected the stomach for the same disease. Students from all parts made pilgrimages to his operating room to see the master at work. But not only as an operator was he known; while perfecting the art he by no means neglected the science. His "Lectures on surgical pathology" are well known to English readers, having been published by the Sydenham Society in 1877-78. His contributions to the literature of general surgery are numerous, the books and papers published by him amounting in all to about one hundred and forty. He did much work in the hospitals during the Franco-German war, and ever after laboured to improve the methods of caring for the wounded. He was also interested in nursing, being the founder of the training-school for nurses at Vienna.

While engaged so continuously in his labours for the relief of suffering humanity, he still had time to cultivate the gentle art of music. Many of his intimates were musicians, and he himself was no mean performer upon the violin. At the time of his death he was engaged on a work on the physiology of music.

Latterly his health had become much impaired, and he had been obliged to leave his work and retire to the quiet shores of the Adriatic, there to search in vain for the health and strength he had lost. There he passed away quietly in the sixty-fifth year of his age.

His work is his best monument.

Mrs. F. R. England.—The sympathy of the whole medical profession will be extended to Dr. F. R. England in the loss that has befallen him in the death of his wife, apparently from a mistake of the druggist. The facts are briefly as follows, and as the inquest is not concluded, we make no comment. Mrs. England had been ill and her husband sent to a wholesale house in the city for some bismuth trisnitrate. It so happened that the firm had none in stock, so they sent to another firm for two pounds of the drug, and received a package labelled "Bismuth Trisnit."

They immediately weighed out two ounces of this and sent it to Dr. England. As soon as Mrs. England took a dose, she remarked a difference in taste, and on examination the doctor came to the conclusion that something was wrong. He immediately administered an emetic of mustard and water and sent for assistance. All that medical science could do was done, but without avail, the unfortunate lady passing away on February 20th, ten days after the ingestion of the drug, which proved to be tartar emetic.

Until the conclusion of the inquest we do not know who is to blame for the substitution of such a powerful poison as tartar emetic for an innocuous drug like Trisnitrate of Bismuth.

From the evidence so far adduced at the inquest, it is by no means proved that the tartar emetic was the actual cause of death. However that may be, we extend our heartfelt sympathy to Dr. England in this his hour of sorrow.

The deceased was a Miss Galer, of Dunham, P.Q., and had been married about seven years.

Mrs. England was foremost in all good works, and many a sorrowing home has been brightened by her presence, and the heavy burden of affliction lightened by her kindness and sympathy. She is most sincerely mourned by all who had the privilege of knowing her.

Medical Items.

—Dr. Paul Diday, well known for his contributions to the literature of venereal diseases, has just died at Lyons, aged 82 years.

—Professor James Russell Reynolds has been elected to succeed Sir Andrew Clarke as President of the Royal College of Physicians.

—The first woman doctor in Japan has received the permission of the government to practice. She is the wife of an official of Osaka, and studied at the University of Ohio.

—It is proposed to erect a monument to the late Dr. Charcot in Paris. The City Council has voted the sum of 1,000 frs. as a subscription to this object. M. Pasteur is president of the committee.

—Dr. James E. Garretson says that no one who can eat fats ever dies of phthisis.—*Times and Register.*

Unfortunately saying this does not make it true.—*Western Med. Reporter.*

His Sorrows : He read for a time with pleasure,
Then he began to grow mad,
He had dropped a tear for the heroine's woes,
And found it a medicine ad.—*Chicago Inter-Ocean.*

It is reported that the government of India have sanctioned an expenditure of 10,000 rupees for the extension and equipment of the bacteriological laboratory at Agra, under the direction of Mr. E. H. Hankin.

Disinfection of Spittoons.—The directors of the Assistance Publique have had an apparatus for the sterilisation of spittoons used by tuberculous patients placed in the Hopital Bichat. The cleansing agent is boiling water previously made slightly alkaline.

—An inquest was lately held at Guy's Hospital on the body of an infant ten months old, which had died from swallowing medicine corks. The assistant house surgeon, who made the post mortem examination, found two corks, three-quarters of an inch long, in the stomach, and another, half an inch long in the œsophagus.

—Dr. Joseph Hayes, who graduated at the McGill Medical School in 1891, has been admitted a member of the Royal College of Surgeons, England, and a licentiate of the Royal College of Physicians, London. He is now taking a course in practical pathology and bacteriology, and expects to sail for America early in the new year.

To Succeed Charcot.—M. Brissaud has been delegated to take charge of the service of the late Professor Charcot at the Saltpetriére for a year, until a permanent successor has been appointed to the Chair of Diseases of the Nervous System. M. Potain has been appointed to fili the vacancy in the Medical Section of the Academy of Science.

—A new treatment for small-pox has been brought forward by Svendsen and others. It is a modification of the blue glass method, red glass being substituted. The theory is that by cutting off the chemical rays of the light the pustules dry up and do not suppurate, the microbes being less active owing to the absence of irritation of the skin by these rays.

—During the month of November last, 129 patients were treated at the Pasteur Institute at Paris. Of these 5 were bitten by animals in which hydrophobia was proved experimentally, and 89 by animals recognized by veterinary surgeons as suffering from rabies. The animals were :—Cats 17, dogs 109, sheep 1, horse 1, pig 1.—*Le Bulletin Médicale, Jan.* 7, 1894.

Smothered to Death by a Pill.—A little 3-year old child met with a singular death at Fort Smith, Ark., recently. He had been having chills and the mother attempted to give him a pill. The little fellow objected and the mother pushed the capsule back of the root of the tongue with her finger. A few minutes later the child died and a post-mortem examination revealed the pill lodged in the trachea. The little fellow had been asphyxiated by the lodgment of the pill.

—Washington Gladden, in the January *Review of Reviews*, says :—Soup houses and charitable bakeries for the gratuitous distribution of food is the first impulse of many kind-hearted people ; but experience proves that the injury outweighs the

benefit. It may, however, be safe and wise to establish soup kitchens and cheap restaurants, where nutritious food can be sold at cost. The relief committees might establish such kitchens, in connection with their industries, and pay for their work in orders for food.

—R. B. Morrison stated at the recent meeting of the American Dermatological Society that he had abandoned the use of electrolysis for the removal of superfluous hairs, on account of the unsatisfactory results obtained by himself and others. It is only useful where there are a few coarse hairs growing from a mole. In most cases an efficient depilatory, as equal parts of yellow sulphate of arsenic and quick lime made into a paste with water and applied to the hairy skin and allowed to dry, will remove the hairs for ten or twenty days and sometimes permanently.

—Favus is not a pleasant disease, and its importation is not a thing to be desired. Yet it is curious to find our immigration authorities so sensitive in the matter of keeping out favus stricken immigrants. One case of syphilis or phthisis, or one thorough-going anarchist will do more harm to the body politic than forty cases of favus. For the disease is curable, and it is so conspicuous that the sufferer is generally forced to seek relief. As favus is so often transmitted by dogs, cats and mice, it might be well to investigate the importation of these animals. —*Med. Record.*

Preserving the Natural Blood-colour in Specimens.—Dr. Freeborn, at a meeting of the New York Pathological Society, called attention to the fact that in a specimen of cyst the colour of the blood had been retained in the vessels. Many methods had been devised and had proved unsatisfactory. It had been found, however, that the blood-colouring could be retained by first drying the specimen in the air for an hour or an hour and a half, and then immersing directly in strong alcohol. If put in fifty or sixty per cent. alcohol, the colour will be destroyed. The same method can be used with solid organs, but as they cannot be so thoroughly dried as cysts the results are inferior.

No "Sun-down" Medical Students.—The *Sun* has made a fitting answer to the following query :

"Will you please inform me if there is a medical school in New York, in which the lectures for the first year are given in the evening or any time after 3 p.m. ? Duffy."

The *Sun's* reply is as follows : "Duffy, you and dozens of other 'would-be' doctors think you can study medicine in the happy-go-lucky way the law-pills study law—lectures in the afternoon, office work in the morning. You must give up that idea at once. Medicine requires twenty-five hours out of twenty-four, and more on Sundays and holidays. The lectures in every medical school are given when the professors and lecturers can find time for them. They're given in the morning, and in the afternoon, and in the evening, and some of the private 'quizzes' begin at 10.30 or 11 p.m., and stop in time to get ready for breakfast, if you dress quickly. Now, Duffy, if you ask because you think medicine is a snap like these afternoon law schools, you'd better keep out of it ; but if you can stand the pace, and ask simply because you are ignorant, why, go ahead, with good health and hard work you may get your license to 'kill, kill, kill, kill, kill.'"—*St. Louis Clinique.*

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Original Address.

VALEDICTORY ADDRESS DELIVERED TO THE GRADUATES IN MEDICINE AT THE ANNUAL CONVOCATION OF THE MEDICAL FACULTY OF McGILL UNIVERSITY, APRIL 5TH, 1894.

BY JAMES BELL, M.D.,

Assistant Professor of Surgery and Clinical Surgery.

GENTLEMEN OF THE GRADUATING CLASS,

It is my privilege to address you to-day for the last time as students, and to wish you, on behalf of my colleagues, the fullest measure of success in the careers upon which you are severally about to enter, and for which you have so long and so earnestly laboured to prepare yourselves. I wish also to congratulate you upon the successful completion of a protracted and exacting course of study, and I trust that all of you realize the responsibilities which will devolve upon you from this hour. It is my privilege, and it is, I am fully aware, expected of me, that I should offer you on this occasion some advice, which may be helpful and useful to you, when, freed from the guiding hands of your teachers, you find yourselves for the first time dependent upon your own resources. Gentlemen, I stand before you appalled by the sense of my inability to make use of the opportunities now afforded me as I could wish. Would that I could condense and crystallize the experience which I have bought, much of it dearly, in the seventeen years which have

elapsed since I stood where you stand to-day! Would that I could write in indelible characters upon your brains the lessons these years have taught me! But alas! it is not ordained that knowledge or experience should be so transmitted. Each one must pass through the ordeal for himself. In this respect, at least, all men are equal. It is scarcely necessary that I should point out to you, at the very outset, the importance, nay, the absolute necessity of leading healthy, normal lives, and of conducting yourselves with absolute uprightness in every relation of life, in order that, with sound minds in sound bodies, and meriting the trust and confidence of your clients, you may always be prepared to give the best advice and to render the best aid. You must aim not only at being good physicians and good surgeons, but also at being exemplary men and good citizens. The modern physician stands before the public as a teacher and an authority on all matters pertaining to health and disease, and he must, therefore, teach by example as well as precept. He owes, and must recognize, duties to the state and to society, and while dealing with the individual, he must not overlook the interests of the community. We now know that most, if not all, the great death-dealing scourges are preventible, and it is our duty to be ever watchful to arrest the outbreak or to prevent the spread of epidemic or contagious disease. The co-operation of the public is essential to such results, and to co-operate intelligently they must be educated. The grotesque and fanciful views of medicine and of disease which still prevail in all ranks of society, are evidences at once of the necessity for education of the public and of the too great limitation of the efforts of our profession in the past. Let it be known that we claim no mysterious powers, that we recognize no mysterious nor supernatural agencies, that we aim only at acquiring a knowledge of disease and of the best methods of dealing with it, and that we are prepared to learn from any source. Standing now, as you are to-day upon the threshold of your careers, it is all important that you should enter upon your life-work with proper conceptions of your duties and responsibilities, and that you should begin at once to cultivate and develop habits of industry, patience, perseverance and self-denial, without which,

let me assure you, the life of the physician can be neither a happy nor a satisfying one. Up to the present time your studies have been prescribed within a narrow range, but we send you forth to-day, with, we trust and believe, sufficient knowledge and sufficient ambition to enable you to take your places and speedily make your influence felt in your respective spheres of labour. In the pursuit of knowledge by accurate observation, thought and experiment, such delights will accrue to the scientific mind as will more than compensate for all the self-denials involved. Let nothing seem beneath your notice or too trivial to observe. Remember that the greatest enemies of the human race—more potent to destroy than famine or war or the convulsions of nature, can only be seen through the microscope and by the trained eye! Let all your observations be accurate and thorough and expressed in terms of precision. Bring all your senses into requisition and educate them to the highest degree. Weigh and consider all your observed facts with judicial fairness before arriving at conclusions. By the formation of such habits, together with economy of time, punctuality and system in work, it is surprising what can be accomplished in a single lifetime. The literature of medicine is filled with records of splendid achievements, well calculated to stimulate your energies. Be encouraged by the work and influence of such men as Pasteur, Lister, Koch, Horsley, Ferrier and hundreds of others, who still living and working have, by their scientific labours, changed the whole aspect of modern medicine and surgery, and whose published works afford more fascination to the scientific student than the most startling works of fiction. Look back and be encouraged by the life and work of John Hunter who, in an age of few opportunities, when compared with the present, immortalized his name in surgery. Never in the history of the world were there such opportunities for scientific work in medicine and surgery and the allied sciences as there are to-day! Never was there such a demand for workers! You will not all find laboratories ready made and equipped to your hands, but remember that the best work has generally been done by those who made their own opportunities. Many great problems still remain to be worked out in physiology and

physiological chemistry. Bacteriology, though as yet but a new science, has already greatly enriched our knowledge of disease and of morbid processes, and has become indispensible to both the physician and the surgeon. What can be more fascinating than the thought that by a knowledge of bacteria and their products we are enabled to differentiate diseases ; to demonstrate their primary morbific elements, and to study their action in the laboratory ? It is but a step further to the discovery of methods for the destruction of these morbific agents within the body and thus striking at the root of many diseases. This step has indeed already been taken, although not successfully by Koch, in the discovery of tuberculin. Who can doubt that these discoveries are but the earnest of much greater and more important ones ! Thanks to such discoveries and the practical application of the knowledge thus obtained by thoughtful and philosophical physicians and surgeons, the whole field of medicine and surgery has been enlarged and expanded in every direction. Disease processes are better understood, and many conditions formerly considered beyond the reach of aid are now remedied with ease and certainty by the surgeon or the physician. Chemistry, too, has contributed much in late years, not only to our knowledge of disease, but also to pharmacy and therapeutics. New drugs and new combinations have taken the place of older and cruder ones. In short, exact knowledge and rational methods are rapidly replacing theories and empiricism. But while dwelling upon the great opportunities for purely scientific work and the rewards which it promises, I do not forget that most of you will depend upon the practice of your profession for your livelihood. I would ask you, however, to remember that the cultivation of the scientific habit of mind is not only compatible with, but is absolutely essential to the successful practitioner of medicine. The day has happily disappeared when eccentricity, boorishness, or a " good bedside manner" were the passports to fame and fortune in the practice of medicine. In the general enlightenment of this nineteenth century the public looks for knowledge and skill in the medical as well as in the other professions, and when to these are added tact, courtesy, kindness and patience in the person of the cultured and broad-minded

gentleman, we have before us a type of the ideal physician. In assuming the responsibilities of practice, you will be confronted with many complex problems relating to the environments of patients, such as have not heretofore occupied your attention. The measures necessary for isolation, disinfection and quarantine, in arresting the progress of an epidemic disease, will give you food for much thought. The stamping out of tuberculosis, one of the great questions of the immediate future, will afford abundant opportunities for good work. Infant feeding, and in fact the whole question of dietetics, is another field in which there is much to be done, both in the application of the knowledge which we already possess, and in the acquisition of further knowledge by experimentation and chemical research. Truly, in this respect the child is the father of the man, and it is simply appalling to reflect upon the ignorance and indifference which prevail upon this subject, and the far-reaching effects of such ignorance upon growth and development, and upon the mental and moral perversions which fill the world with misery, and which have contributed to all the great social problems of all ages. The education of children physically and mentally, the earlier recognition of disease, especially of those diseases which lead to deformity, in order to prevent, what we too often cannot remedy, and the closer observation of the physiological action of drugs are all problems of the highest importance. Finally the work of each day will suggest new and interesting problems for solution. There is ample scope for tastes and talents of every kind. The very extent and variety of the possibilities offered to the medical graduate have seemed sometimes to bewilder him and cause him to stand still, unable to decide which path to follow. You cannot afford to rest on your oars! If once you fall behind in scientific work and interest, you will never recover the ground thus lost. This is, perhaps, the greatest danger which threatens the young graduate. Wearied perhaps by college work, elated perhaps by college successes, he is tempted to relax his efforts for a time. Having no definite duties, meeting perhaps with some discouragements (who does not?) apathy steals upon him, and almost unconscious of the fact, he drifts aimlessly along in the wake of progress,

until some day he finds himself, like Rip Van Winkle, rudely awakened from his slothfulness and confronted by a new order of things in which he can claim no part and to which he cannot reconcile himself—or sadder still, the awakening may never come. Such experiences are unfortunately not very rare. Beware then of this critical juncture in your lives! These dangers are best combatted by immediately taking up definite lines of work and by frequent intercourse with professional brethren, especially in medical societies. There is no influence so beneficial, none which so stimulates thought, alertness and acutness of observation and promptitude of action, as full and free discussion of the problems which engage our attention from day to day. There is none so well calculated to soften the asperities of life, to lessen the possibilities of misunderstandings between one another, to fire the ambitions and to increase mutual respect and good will. Begin early to put your work on record, to form and express opinions concerning it. Believe me, honest reports of your work with your opinions candidly and modestly expressed cannot fail to advance you in the good opinion of your fellow-workers, who alone are capable of judging it. I trust you are each prepared for a life of labour, labour which will be lightened by its ever-increasing interest and by the steady acquisition of knowledge, by the satisfaction born of doing good, by the approval of your consciences and by the esteem of your fellow men. Fame and fortune come only to the few. Success from a material standpoint seldom exceeds a decent livelihood. True success, however, which is never of mushroom growth, will come in greater or less measure to all who persevere in honest and conscientious work.

I will not dwell upon the reverse of the picture! Worry, anxiety and slavish exactions, ingratitude, suspicion and the ignorance which places the mountebank before you in public esteem, you will all experience. But strong in your consciousness of right, of independent mind, self-contained and resourceful, you will surely rise superior to all such petty annoyances. Keep before your minds the words of Longfellow—

> Let us then be up and doing
> With a heart for any fate,
> Still achieving, still pursuing,
> Learn to labor and to wait.

In conclusion, gentlemen, it will behoove you to be as wise as the serpent, in order to avoid the many pitfalls which will beset your paths during the early part of your professional lives. Do not be tempted by the glamour of greater and more immediate rewards into the by-ways of " 'pathies " and " isms " and " cures " and other methods of the charlatan. Be on your guard against lending your names to doubtful enterprises. Be chary of giving testimonials. Remember you have the honour of your Alma Mater in your keeping. But gentlemen, with the Golden Rule as the basis of your conduct, with high ideals, with a strong and clear sense of your duties and responsibilities, and lastly, with the rudiments of a good medical education, you need have no fear for your future. We have none !

Original Communications.

AMŒBIC ABSCESS OF THE LIVER.*

By F. G. Finley, M.B., (Lon.) M.D.,
Lecturer in Medicine, McGill University, Physician to Montreal General Hospital.
AND
J. G. Adami, M.A., M.D.,
Professor of Pathology in McGill University, Pathologist to Mont. General Hospital.

The patient, a negro, æt. 37, was admitted to hospital upon January 31st, 1894, complaining of pain in the right side and weakness. The chief facts relating to his medical history were that he had lived for eleven years in Texas, that he had acted as cook on a vessel trading between Quebec and South America, and that he had also spent some time in Australia. He had never suffered from diarrhœa for more than a day or two at a time, and had never had dysentery. He had, however, two febrile illnesses, each lasting about three months, some years previously.

The present illness began a month previous to admission with febrile symptoms and diarrhœa. Some pain in the right side and weakness, together with nausea and vomiting were also present, but he had not taken to bed before his admission to hospital.

On examination the temperature was 101⅘, the tongue was coated : there was no jaundice.

The intercostal spaces over the liver were full, and there was marked tenderness in the right epigastric region. Hepatic dulness began at the 5th rib, extending down for about 6 inches. Posteriorly there was dulness from the angle of the scapula downwards. Friction could be detected over the right inframammary region. The abdomen was otherwise normal. The urine was of a deep sherry color, 42 ozs. in 24 hours ; it contained no bile, albumen or sugar.

During the ten days that the patient was under observation the temperature remained almost constantly at 102, and there were no chills or sweats. The hepatic dulness during this period rose to the 3rd rib, and pus was withdrawn by the

* Read before the Montreal Clinical Society, February 23rd, 1894.

aspirator. Upon February 12th, Dr. Bell, after preliminary aspiration, opened the abscess posteriorly in the 9th space and resected the rib, allowing about 50 oz. of pus to escape. The patient did fairly well for some days, but sank rather rapidly and died upon February 18th, six days after the operation. Numerous actively moving amœbæ were found in the pus, together with much debris and a few leucocytes and red blood corpuscles.

The stools were examined for amœbæ during life with a negative result.

It is unnecessary to give all the details of the autopsy which was performed upon the day of death. Suffice to say that upon external examination there could be seen a wound in the ninth interspace and posterior axillary line in the right side ; this led through the region of the resected ninth rib to the liver, and from it could be expressed whitish necrosed tissue together with some pus.

Upon opening the thorax the right lung was found firmly adherent over all its surface, and greatly contracted and diminished in size. The adhesions were firm and close. It was found that the incision into the right lobe of the liver had passed through the diaphragm, but in consequence of the firm nature of the adhesions between diaphragm and costal wall, the pleural cavity presented no signs of acute recent disease, and had apparently been in no wise disturbed by the passage across of the contents of the hepatic abscess. The liver, which weighed 2650 grm., was greatly enlarged, both upwards and downwards. It extended three finger breadths below the costal margin ; was of a fawn colour, and presented here and there upon the upper surface of the lobes frequent small white patches—necroses or abscesses—averaging 2 mm in diameter. The falciform ligament was well to the left of the ensiform cartilage, the right lobe being especially enlarged. In the substance of the right portion of the right lobe was a large abscess, with thick necrosed walls and irregular and shreddy internal surface. This extended from the under surface of the organ to within 2 cm. of the upper and outer surface of the lobe ; its breadth from side to

side was 12 cm., and from above downwards it was 15 cm. (6 inches) across. Throughout the rest of the right lobe there were scattered a few other secondary abscesses; the largest of these was 15 mm. in diameter.

The intestines were markedly congested. In the jejunum were a few subcutaneous hæmorrhages. Upon examination of the large intestine no signs could be made out of any dysenteric lesions. Close to the ileo-cæcal valve was a small whitish patch, which gave rise to the suspicion that there was a cicatrix, but upon closer examination the most that could be discovered was that here the mucous membrane was softened and thin, with no ulcerous or old inflammatory conditions. Here, then, as not unfrequently occurs, the amœbic abscesses of the liver were present without any indication of dysenteric intestinal lesions, either during life or at the autopsy. It is to be noted, however, that the hepatic flexure of the colon was in close contact with, and, in fact, adherent to that portion of the under surface of the right lobe of the liver, which was undergoing necrosis.

Beyond that the heart presented the condition of early pericarditis, and that the kidneys showed some acute parenchymatous nephritis, the condition of the other organs does not call for remark.

Stained sections of the liver and slough showed the presence of amœbæ; these were best shown by staining with methyl-blue and were faintly stained by hæmatoxylin. In the abscess cavity and its walls were numerous masses of streptococci. These were evidently of secondary growth, for the abscess contents were singularly free from pus cells, being mainly formed of broken down cheesy matter. Microscopic examination of the walls of the colon showed no evidence of necrosis.

In this case, therefore, the presence of fever, of hepatic enlargement, pain and tenderness, suggested the presence of purulent inflammation in the neighbourhood of the liver. That this was so was confirmed by the result of aspiration. Whether the abscess was sub-diaphragmatic or in the liver substance was determined by the discovery of the amœbæ in the removed

fluid. These indicated clearly that the origin of the disease was in the liver itself.

The failure to find amœbæ in the fæces was explained at the autopsy by the absence of any dysenteric ulcers or necrosis in the colon.

This case gains an additional interest from the fact that so far as we know, it is the first recorded in Canada in which the amœbæ coli have been demonstrated in an hepatic abscess, if not in the living body generally.

SYNOPSIS OF ONE HUNDRED CASES OF SCARLET FEVER.*

By J. R. Spiers, M.D.

The first one hundred cases treated in the Montreal General Hospital during the present epidemic may be divided into the following classes :—

(*a*) Of mild cases, showing all the symptoms of scarlet fever with a moderate fever and a little failure of the general health, there were forty.

(*b*) Of moderately severe cases, with a high temperature, a severe angina and intense rash, with considerable depression, there were twenty-nine.

(*c*) Of severe cases with a continued high temperature, ulceration and destruction of the tissues of the throat and involvement of the glands of the neck, there were thirty-one.

In over 50 per cent. of the mild and moderate cases convalescence set in on the fourth or fifth day by crisis, the temperature falling in a few hours two or three degrees, then by lysis reaching normal by the end of a week or ten days. In a few cases the temperature fell to normal in twenty-four hours. The remainder of the cases reached the normal by a gradual lysis in from five to ten days.

The rash in many cases, presented peculiar appearances. In many of the mild cases it was apparently absent or very transient, or appeared only in certain parts of the body, chiefly on the neck and chest, in the form of erythema. In three cases minute red spots without a general redness appeared.

In the moderately severe cases the rash, as a rule, presented the appearances generally described, but two or three presented a distinctly papular rash, these papules being especially distinct on the back of the hands and forearms.

Among the severe cases anomalous rashes were common. One case presented a papular hæmorrhagic rash over the whole body without any distinct coloration of the skin between. Two or three cases had very numerous small vesicles over the whole

* Read before the Montreal Medico-Chirurgical Society.

body. The case of a young child presented the appearance of an acute exfoliative dermatitis.

The throat in mild cases showed as a rule redness and some slight swelling of the soft palate and tonsils. In the severe cases the whole palate, pharynx and tonsils were intensely red and covered with sticky mucus. In the most severe cases ulceration and destruction of the tissues occurred, accompanied by a fœtid odour. In these cases also the glands of the neck became swollen and inflamed, frequently running on to suppuration. A general pyæmia has been frequently set up.

In one case sloughing of the tonsils and cellular tissues of the pharynx occurred, leaving the muscles of the pharynx clearly dissected out. In another case an abscess developed behind the soft palate, which was evacuated by an opening through it with immediate relief.

A large number of cases presented a diphtheritic appearance. This was most common among the moderately severe cases, but was also common in the very severe cases. They were always accompanied by enlargement of the glands of the neck which very occasionally went on to suppuration. This diphtheritic condition occurred in 8 per cent. of the cases.

The digestive system was not, as a rule, much disturbed, except the appetite was lost. Vomiting was persistent for four or five days in four cases. Diarrhœa was troublesome in three cases early in the disease. In fatal cases it frequently set in during the last three or four days.

The complications and sequælæ have been numerous and varied.

The most frequent and most dangerous was inflammation of the glands of the neck. This occurred in 19 per cent. of the cases. The most dangerous was that form with an ulcerated condition of the throat. It generally ran on to suppuration and was by far the most frequent cause of death, five deaths occurring from this cause, while only three recovered.

A less important form was that accompanying the pseudo-diphtheritic angina. This only went on to suppuration in one case and caused no deaths. These two forms have occurred in

the first two weeks of the disease. Three per cent. of the cases suddenly developed an acute inflammation of these glands during the third week of convalesence. It set in with chill and high fever and a rapid enlargement of the glands took place. In two cases complete recovery took place by the third day, but one ran on to suppuration.

Acute nephritis occurred in 8 per cent. of the cases coming on insidiously in the third or fourth week. Death occurred in two cases with complete suppression of urine and convulsions. In five cases apparent complete recovery took place after two to three weeks. One case, the only one in which dropsy was markedly present, became chronic.

Otitis media occurred in 6 per cent. of cases, most frequently with the pseudo-diphtheritic angina, but occasionally with the mildest cases. It may occur at any time during the first four weeks of the disease.

True diphtheria has been present in four cases, but cases have been frequent coming into the hospital suffering from diphtheria, and evidently only shortly convalescent from scarlet fever.

Arthritis was common following this disease. A large number complained of slight pain in one or more joints. Three per cent. have suffered from severe attacks resembling acute rheumatism with fever and swelling of the joints. In one case double hip joint disease rapidly developed with dislocation of the heads of both femurs upwards and backwards. There was no evident formation of pus.

In another case a so-called white swelling became purulent ; rapid and extensive destruction of the joint followed.

Mitral disease developed in 2 per cent. of the cases.

A purulent discharge from the vagina occurred in two young children during the fifth week, which disappeared in a few days.

A distinct relapse occurred in one case at the end of the first week of convalescence. The whole course of this second attack was very severe, while the primary attack was very mild.

Ten per cent. of the cases treated died, the causes being as follows :

Nephritis, two deaths; ulcerated condition of the throat with involvement of the glands and pyæmia, five deaths; diphtheria, one death; pneumonia, one death; and one death due apparently to the intensity of the poison.

All but one death have occurred among young children, though fully 25 per cent. of the patients have been adults.

The adult who died was a chronic drunkard.

Tabulation of Cases.

Mild	40
Moderately severe	29
Severe	31
	100

Complications.

Well marked inflammatory enlargement of the glands of the neck	19
Acute nephritis	8
Otitis media	6
Diphtheria	4
Severe arthritis simulating acute rheumatism	3
Mitral disease	2
Pneumonia	1
Relapse	1

Deaths.

Malignant scarlatina	1
Acute Nephritis	2
General pyæmia	5
Diphtheria	1
Pneumonia	1
	10

TWO CASES OF COMPLETE DOUBLE URETER.*

By J. G. Adami, M.A., M.D.
Professor of Pathology, McGill University, Pathologist to the Royal Victoria Hospital.
AND
J. L. Day, B.A.

Although the condition of multiple ureters is one of comparatively frequent occurrence, it would seem that in nearly all the cases recorded of this abnormality fusion of the ureters, forming a single canal, had taken place before perforation of the bladder wall. The entrance into the bladder of accessory ureters by separate openings, is a condition which authorities on the subject are unanimous in regarding as extremely rare.[1] Gangolphe[2] states that in his search of medical literature, he was able to find only two examples. His search must have been incomplete, for we have met with about a dozen recorded cases in all—sufficiently few, however, to merit that the two cases in hand be described.

Of these one was discovered in a recent autopsy at the Royal Victoria Hospital on the body of a man aged 65. The right kidney in this case was normal; the left exhibited more than one abnormality. There were two renal arteries. The upper of small size, was given off from the side of the aorta just above the level of the cœliac axis. This passed into the substance of the cortex[3] of the upper part of the kidney upon its anterior and upper surface, and half way along its course gave off the left suprarenal artery. The main renal artery left the aorta at its normal point of origin, and divided into three branches, of which the lowest passed in front of the renal vein, and sub-divided into three branches.

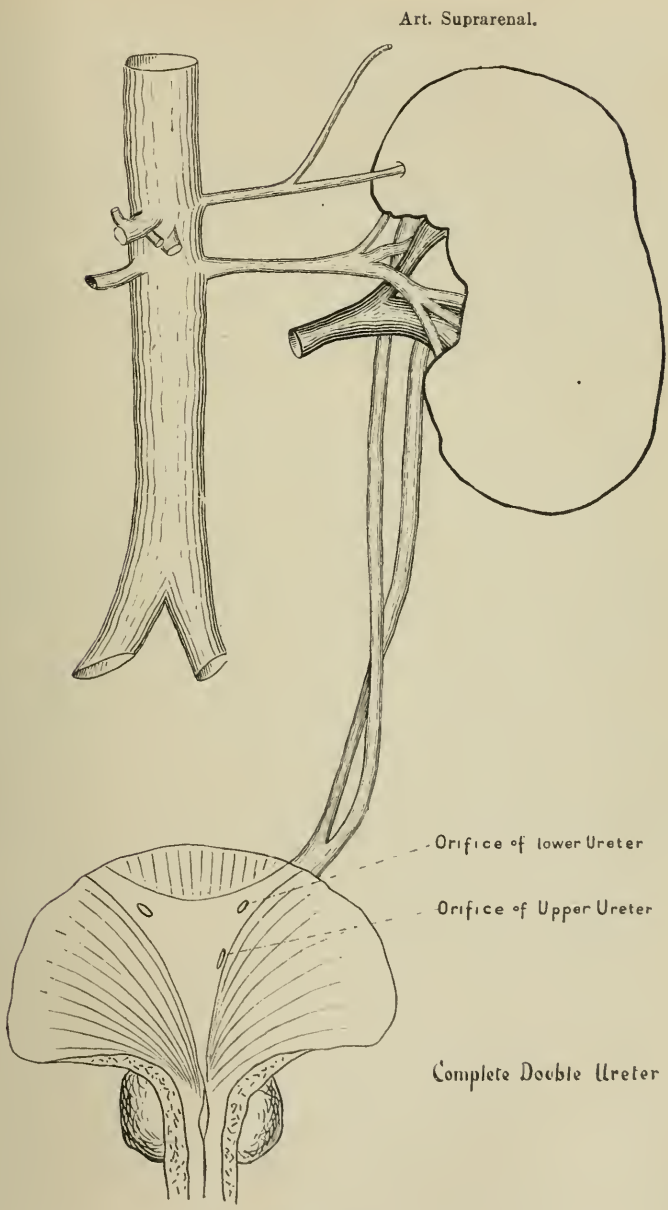
The kidney presented two pelves. The ureter of the upper one, which was the smaller, passed down behind the vessels, and crossed in front of the inferior ureter. Half an inch before reaching the bladder wall the ureters became fused externally, but at the same time the canals remained distinct. It was not possible to pass a pin probe from one to the other, nor could fluid injected into one ureter be found to pass into

* Read before the Montreal Medico-Chirurgical Society, February, 1894.

[1] Klebs *Path. Anat.* ii, page 678 (1876); Rokitansky *Path. Anat.* Syd. Soc. ii, p. 211; Foerster *Path. Anat.* p. 523 (1865).

[2] Lyon Médicale, No. 26, 1883.

[3] An artery piercing the cortex is said to occur in 1 in 7 bodies examined.


Art. Suprarenal.
Orifice of lower Ureter
Orifice of Upper Ureter
Complete Double Ureter

the other under any conditions. The ureter given off from the lower pelvis may be considered as the main duct, inasmuch as it was slightly larger, while its opening into the bladder was in the usual position, and corresponded to that of the single ureter of the right side. The superior and accessory ureter opened into the bladder by means of a small, but distinct, slit-like aperture, situated half an inch below, and to the inner side of the main orifice, in the line between that and the urethral orifice.

The second case is a specimen obtained from a female body by Dr. Shepherd, of McGill University. This has, for many years, been in the Museum of the Medical college, and has never been recorded.

With the exception that the kidney here presents a more clearly lobulated appearance, and that there is no arterial abnormality, the case is almost identical with the preceding. The reduplication occurs only on the left side, there are two pelves, the upper being the smaller, the superior ureter crosses in front of the inferior, and its separate orifice is also along the edge of the Trigone, in front, and to the inner side of the main orifice, between that and the urethra.

It is a curious fact that in nearly all the recorded cases of this peculiarity it has occurred in the *left* side. The two cases just mentioned are on the left side ; Tangl's[1] celebrated case, and Gangolphe's[2] likewise occurred on this side. Baum[3] has lately published a case in which it occurred on the right side. There may be no special significance to be attached to this *left*-sided tendency, but still it appears to obtain.

[1] Virchow's *Archiv.* 118 (1889) p. 414.
[2] Loc. cit.
[3] Archiv. of Gynœkol. 42, p. 339 (1892).

Case Reports.

A CASE OF BOTULISM.*

By A. E. Vipond, M.D.

Upon August 7th, 1893, I was called to attend Mrs. C., a large stout woman of about sixty years of age, who, for some little time, had been under my care, suffering from asthma. Upon arrival I found the patient in bed and evidently in considerable pain. She complained of intense irritation all over her skin, with pain everywhere, but chiefly in the abdomen. The cutaneous irritation was indicated by the rate at which she continued to scratch herself.

I was able to gain the following history : Shortly before the trouble began she had taken her tea. After tea she was seated sewing and feeling quite well, when suddenly she jumped up, began to scratch her arm violently, declared that she felt seriously unwell and must go to bed, but already before she was ready for bed the whole surface of the body was reddened and itching horribly. In a few minutes the face began to swell and next the tongue and glottis became swollen, so that becoming thoroughly frightened at her condition she sent for me.

I found the face much swollen and intensely red ; the ears also were greatly swollen and red, especially the left, which had a badly frost-bitten appearance. The pupils were normal in size. The body was covered by a general erythema with urticarial lumps here and there.

The patient was quite rational, though the tongue was so swollen that she could scarcely speak. Placing my finger in her mouth I found that the floor of the mouth, the root of her tongue and the glottis were in the same swollen condition ; this rendered respiration a matter of grave difficulty, and added to this, upon examination of the lungs I detected whistling râles, evidently due to a corresponding congested and œdematous condition of the mucous membrane of the bronchi.

The subjective symptons were not very important. Vomiting was absent, the bowels moved freely just before my arrival ;

* Read before the Montreal Clinical Society, Feb. 3rd, 1894.

the pulse was 86 and regular, but so weak that I could not count it at the wrist. The heart sounds were faint, the temperature normal.

I thought that the symptoms were caused by something that she had eaten. On inquiry they stated that she had only taken her ordinary food. She took no oysters, no shell fish, canned goods, etc. On questioning more closely, I found that she had eaten Bologna sausage to her tea. It seemed that this had caused the trouble. I emptied the stomach by giving a hypodermic of apomorphia, which brought on free vomiting. For the itching I bathed the body with vinegar, and this soon brought relief. I happened to have cocaine with me, so rubbed this over the tongue after which I swabbed the tongue and throat with dilute tannic acid and made her swallow pure vinegar. The swelling soon got less and patient could speak distinctly in a short time. The heart's action and general condition soon improved. I ordered a purge to be followed by powders of bismuth and soda. Next morning she was much better and in a day or two felt quite well.

I regard this as a case of ptomaine poisoning, the variety known as sausage poisoning or Botulism. The symptoms were due to gastric irritation causing a reflex vaso-motor paresis. The poison seemed to attack mainly the vaso-motor system, indeed the weakness of the pulse and heart would seem to have been due to the sudden flooding of the peripheral vessels. The general disturbance was slight, there was no vomiting and no rise of temperature. So far as I can learn the swelling of the tongue and glottis is not common in these cases.

A RARE FORM OF STOMATITIS WITH CUTANEOUS COMPLICATIONS.*

By H. D. Hamilton, B.A., M.D.,
Laryngologist to the Montreal Dispensary.

James C., aged 18 years, applied at Dr. Major's clinic for diseases of the nose and throat at the Montreal General Hospital upon the 3rd of March, 1893. He came complaining of sore throat and mouth.

On examination, the mouth showed a severe form of stomatitis affecting all the lining mucous membrane as far back as the soft palate and uvula. The mucous covering was shedding in large sheets of yellowish-white colour, leaving here and there isolated raw patches, about the size of a split pea, specially noticeable on the edges of the tongue. The tonsils were not shedding their covering, and were only slightly injected. These appearances would not have been of so much interest in themselves, had not the examination of the fingers, hands, wrists and ankles shown well-marked patches of Herpes Iris (or Erythema multiforme) about to be described.

The history of the attack was as follows: The patient had been awakened four days previously by a prickling sensation on the palate and edge of the tongue. He was able to go to his work in spite of feeling heavy and languid, but at noon had to return home. He could not swallow without pain, and his eyes were weak and inflamed. Upon the morning of the second day of illness, he first noticed small itchy red points on the backs of both hands and wrists. During the course of the day these points developed into minute water blisters (vesicles) surrounded by discs of varied tints; the largest of these was about the size of a 10c. piece. "Cold-sores," appeared on the lips, and a few small vesicles on the cheeks and chin, rapidly becoming crusted over with yellowish scabs. On the 2nd and 3rd days, he was unfit for work, and on the 4th, he felt so miserable that he applied for relief at the hospital, where he had been treated the year before for a similar condition of the mouth by Dr. Major.

* Read before the Montreal Clinical Society, Feb. 3rd, 1894.

Upon investigation it was found that besides the local lesions of the mouth and skin already described, there was very marked constitutional disturbance. When seen at the hospital, he gave one the impression of being a very sick boy, having a bright flush on his cheeks, dry, cracked lips (with yellowish crusts covering what had been vesicles at first), small rapid pulse, a coated tongue, injected conjunctivæ, while (at 5 p.m.) the temperature under the tongue was 100⅘. Accordingly he was recommended for admission and upon the next day (March 4th, 1893,) he came into hospital and thus afforded a better opportunity of enquiring into his previous condition.

It was now discovered that since his ninth year the patient has been subject to recurring attacks of inflammation of the mucous membrane and skin. The seasons in which he was generally affected were the spring and fall. Otherwise he had enjoyed good health. Amongst the causes assigned for the five preceding attacks were cigarette smoking (which had been indulged in before the present outbreak also), inhalation of sewer gas and the local irritation of a poisonous weed. There was nothing in the patient's occupation to act as a cause, and the family history threw no light on the case. That the general health is always run down at the time of an attack, is an important point, and has probably much to do with the etiology.

Description of the Cutaneous Complication.—The skin complication first appeared as small red pimples In a few hours each of these formed a minute vesicle, or seemed to be nothing more than a small flattened or cupped area, around which appeared a pale ring, and outside this again there developed a slightly elevated ring of blue-white colour. A faint red areola separated the disc from the normal skin. During the course of the next few hours in place of the original central vesicle, a crust became formed. This eruption appeared 24 hours after the lining of the mouth had given evidence of being the seat of an eruption.

My diagnosis is based upon the following points : The well-defined coloured discs of various tints, around a central vesicle.

The symmetrical distribution ; the situation on backs of hands and insteps.

Types.—There are two types or varieties of Herpes Iris. One has a central vesicle (or bluish depression) surrounded by several rings of different shades, the other has a central bulla, and here the coloured rings become replaced by discs of distinct vesicles. It will be seen that the present case conforms to the first type.

Herpes Iris is in itself an uncommon disease, being found (according to Crocker) in but 1.6 of every 1,000 cases of cutaneous disease ; the association with stomatitis is still rarer, although it is well recognized. A very similar case is recorded by Dr. Fox, of New York, in the *Journal of Cutaneous and Genito-Urinary Disease*, for January, 1890.

The following characteristics of this disease are well borne out in this case :—

(1.) The youth of the patient (erythema is most often seen in the young).

(2.) The seasons of spring and autumn are most favourable.

(3.) The recurrent attacks, predisposing to fresh outbreaks.

(4.) Local irritation is an acknowleged factor, and here we have excessive cigarette smoking and poisonous weeds.

(6). Defective sanitation was proved by one observer to act as a cause in 12 cases exposed to sewer gas.

In the enumeration of situations where lesions were found, I may include the junction of the prepuce with the glans penis, and thus we have affected the mouth and lips, the conjunctivæ, the glans penis and the skin, besides a slight irritation of the nasal mucous membrane.

DEATH FROM SHOCK.

By J. A. Grant, Jr., M.D., Ottawa.

Death from shock, or heart failure, is, of course, an every day occurrence in organically diseased hearts, but is much rarer in hearts that are, as far as post-mortem examination goes, organically sound. To me, the case I here bring forward is interesting, not only from a medico-legal point of view —an inquest having been held and the case most thoroughly gone into—but also from a medical. I feel the subject is not only a big one, but that even yet there is much room for further knowledge. The factors in functional heart trouble, viz. : the pneumogastric, sympathetic, the cardiac centre in the medulla, the intrinsic cardiac ganglia and the heart muscle itself, possessing power of automatic action, although so long studied are still so ill understood, I feel that our prognosis must be almost hopelessly vague. In addition to giving the notes of this case, I have dwelt on a few points that seemed to me of interest in connection with it.

L.C., aged 38, married and has five children, all healthy. Wife never had a miscarriage. For years he was a cab driver ; he latterly had been a hotel clerk. He was a well built and fairly developed man, had never been a hard drinker, had never had rheumatism, scarlet fever, syphilis ; in fact his history was good, as was also his personal and family history. I learned from an old friend of his that he was a very nervous man. In January, 1893, he went to a dentist. As soon as he entered the room, he took off his coat, jumped into a chair and said : " I want you to pull a tooth for me." The dentist told him to open his mouth and show him the tooth ; while he was examining the tooth, the man gave a groan, and as he thought fainted. He immediately tilted the chair back, applied ammonia to the nostrils, and as this produced no effect, he sent for me. When I arrived a few minutes after, I found the man laying in the dentist's chair apparently quite dead. I immediately gave a hypodermic of ether and performed artificial respiration, without causing the slightest effect. The post-mortem performed by

Dr. Chabot and myself, showed all the organs to be in a healthy condition, the heart's valves were perfect, the muscle substance was firm and of a good colour, no atheroma of the valves or vessels, no evidence of fatty disease, no dilatation of the heart cavities. At the inquest, the question of an anæsthetic having been administered was brought up, but it was clearly proved that none had been used. Had chloroform been given, death would certainly have been attributed to it, and it made me ask myself the question, how often is chloroform blamed for death when it is not the cause.

The *British Medical Journal*, of Nov. 7th, 1893, mentions a case of a young man of 25, suffering from varicose veins. He was very nervous about chloroform, and when twenty or thirty drops had been given, breathing and the heart's action stopped. All efforts to restore vitality failed. The chloroformist stated that at no time was the patient really under the anæsthetic, and death resulted from syncope. This heart failure may presumably be attributed to fear, and perhaps the chloroform may have acted as an adjuvant in the cardiac depression? Many instances are recorded in the older treatises of a patient who, when held down preparatory to operation, has died from fright, and it is a well authenticated fact that one of the first patients to whom chloroform was administered in Edinburgh succumbed to panic, no chloroform having been given. In Dr. Snow's "Treatise on Anæsthetics," published in 1858, several cases are given, in which death was attributed to fright, and not to chloroform, as quite a small quantity was given and freely diluted.

Another interesting case is given in the *British Medical Journal*, November, 1891: C.T., a mariner, aged 36, strong, robust; had a lipoma over left iliac crest; he walked to the operating theatre, and chloroform was administered by a drop bottle and towel. He struggled a good deal, and at the first sign of relaxation chloroform was stopped; just as the operation was to commence, the breathing ceased and all efforts at resuscitation failed. At the post mortem all the organs were

found healthy ; the patient had been dreading the operation greatly.

These are only a couple of cases cited to show that there may be a condition of the heart, a condition of danger impossible to diagnose, a condition quite free from valvular lesion, dilatation and fatty disease, in which shock or fear alone can cause heart failure. The two factors to heart lesions are the muscular tissue and the nervous mechanism of the heart, provided the blood is normal. In all these cases I have mentioned the muscular tissue was not at fault, as shown by the post-mortem examination, so that we have to look to the pneumo-gastric, sympathetic and intrinsic cardiac ganglia for the cause of death. It certainly is a complicated nervous mechanism, and the poison of diphtheria often shows us how greatly it can be effected. Cases of diphtheria must be known to all of you, where a young patient with a sound heart, is attacked with the disease, the membrane disappears from the throat, and in spite of all efforts at stimulation the pulse gradually becomes slower and slower till the heart action ceases, or death may be instantaneous after some slight exertion, simply through the action of the diphtheria poison on the nervous mechanism of the heart. Recently the morbid action of the influenza poison, or grippal toxine, has been shown to be the cause, not only of grave irregularity and intermittence of the heart's action, but of sudden cessation and death. I think we can infer from these facts that we do have a condition of nervous heart, if I may so call it, a heart of apparently sound muscular and valvular structure, a heart free from organic lesion, but functionally hanging by the merest thread, that is liable to snap, should the slightest strain be given to this unstable nervous mechanism.

Reviews and Notices of Books.

The Physician's Wife; and the Things that Pertain to Her Life. By Ellen M. Firebaugh. With portrait of author and 44 photo-engravings of original sketches. In one Crown Octavo volume of 200 pages. Extra cloth, $1.25 net. Special limited edition, first 500 copies, numbered, and printed in photo-gravure ink on extra-fine enamelled paper; bound in half-leather and vellum cloth, $3.00 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street.

This book is written by one who knows, one who has had experience as a doctor's wife. It is most readable and entertaining, but more than this, there is a solid substratum of fact beneath all. It should be read by all who know the doctor, his trials and tribulations, but especially do we recommend it to any young lady who feels a special interest in some member of the medical profession and contemplates taking charge of him; to her the book will prove invaluable.

Sprains, Their Consequences and Treatment. By C. W. Mansell Moulin, M.A., M.D., Oxon., F.R.C.S., Surgeon and lecturer on Physiology at the London Hospital; late Hunterian Professor at the Royal College of Surgeons; Redcliffe Travelling Fellow and Fellow of Pembroke College, Oxford. Second edition, pp. 153. London: H. K. Lewis, 1894. Price, 4s. 6d.

The subject of the book is unfortunately one that does not receive the amount of attention that it deserves. Patients are always very much comforted when told that they are suffering from "only a sprain," little thinking that the amount of disability is often greater after a sprain than after a fracture. This opinion is shared by many medical men, a fact to be much deplored. Dr. Mansell Moulin has endeavoured in this work to dispel this illusion and give to this class of injuries the importance they deserve. He treats the subject first in a general way, causation, pathology and treatment, and in the second part of the book takes up the individual joints, their injuries and the mode of treatment appropriate to each. He points out the damage likely to be done by the prolonged rest

treatment, and strongly advocates massage, insisting, however, on the selection of cases and the thorough carrying out of the process. Bone-setting is explained and the principle of forcible movement is recommended in order to rupture adhesions and bands of lymph which bind the bones together and limit motion in cases where the recovery after a sprain has been imperfect.

The subject is treated most thoroughly, and in the second edition, some changes have been made in the arrangement of the work with a view of making the appropriate treatment of individual cases more distinct, and also of making reference easier. We are sure that the favourable impression made by the first will be deepened by the present edition.

Syphilis in the Innocent (Syphilis Insontium) clinically and historically considered, with a plan for the legal control of the disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital; lately Professor of Dermatology New York Post-Graduate Medical School and Hospital, etc. The essay to which the College of Physicians of Philadelphia in 1891 awarded the Alvarenga prize for the best memoir on any medical subject. New York, Bailey & Fairchild; pp. 398.

The author divides the subject of syphilis insontium into three heads, and of these he only takes up one, namely syphilis sine coitu, mainly extragenital syphilis. In spite of this restriction, the work covers a great deal of ground. Clinical records are given of one hundred and sixteen cases which have come under the observation of the author. A classification is made of the methods of infection in this form of syphilis in three main heads, namely:—1st. In connection with household and industrial life; 2nd In the case of children; 3rd. In professional pursuits. Under these headings over one hundred modes of transmission are described. The principal epidemics of syphilis are referred to, as well as the various endemics which have occurred in various times and places. The different names by which the disease is known are also mentioned. A chapter is devoted to the medico-legal aspect of the disease, prophylaxis and the legal control. The book closes with a

synopsis of facts and literature relating to syphilis insontium arranged in accordance with the classification of modes of infection, and analytical bibliography giving the names of the various observers, the cases observed and the reference to the article describing the case. From this brief account of the work it is easy to see its scope, and the thorough manner in which the task of compilation has been done is evident on the most cursory examination ; documents in all languages have been consulted and most of them by the author himself, with the result that an unrivalled collection of cases is presented and the book is a most complete exposition on what has been heretofore a rather neglected subject.

Annales de Optalmologia. 31 Enero, 1894. Año XVII., No. 1.

This is a journal published in Madrid, Spain, in the interests of opthalmology. This is the first number under this title, the publication being formerly devoted to general medicine, under the name of *La Andalucia Medica.* It is printed in Spanish and contains original and selected articles bearing on diseases of the visual apparatus.

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Excision of the Hip-joint in Tubercular Disease. By B. Merrill Ricketts, M.D., Cincinnati, O. A paper read before the Cincinnati Academy of Medicine, November 20, 1893.

Bone Operation for the Correction of Club-foot, Based upon an Analysis of 435 Operations by 108 Operators. By H. Augustus Wilson, M.D., Philadelphia. Reprinted from the Transactions of the American Orthopedic Association, September, 1893.

Twenty-Sixth Annual Report of the New York Orthopædic Dispensary and Hospital. 126 and 128 East 59th Street. 1894.

Retrospect of Canadian Medical Literature.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian works published in other countries) for notice in this department of the JOURNAL.]

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(1.) Purulent pleurisies.—J. E. Graham, p. 83.

(2.) Climates favourable to consumptives—P. H. Bryce, p. 89.

(3.) Suppurating myoma of the uterine wall followed by twin pregnancy—J. F. W. Ross, p. 108.

Cephalhæmatoma (case of)—H. Morell, p. 110.

Canadian Practitioner, March, 1894.

(4.) The indications for operation in spinal lesions—G. A. Peters, p. 161.

Cocaine in surgery—L. M. Sweetnam, p. 172.

(5.) Two obscure cases of abdominal surgery—W. Oldright. p. 178.

A confused case of ethics—E. H. Stafford, p. 182.

Acute inflammation of the middle ear following influenza —Dr. Butler. p. 186.

(6.) Rupture of the heart (case of)—F. P. Drake—p. 196.

Recent experiences with traction forceps—W. Brinton (Baltimore, U.S.A.), p. 202.

Oyster poisoning (case of)—J. H. Howell, p. 205.

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De la valeur pathognomique du vomissement et de son traitement comme symptome—C. Verge, jr., p. 67.

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Curabilité de la consomption—J. I. Desroches, p. 252.

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(7) Rapport de l'inspection fait dans la ville de Montréal du 29 janvier au 3 février à l'occasion de l'épidémie regnante de fièvre scarlatine—J. A. Beaudry, p. 283.

Maladies contagieuses déclarées pendant le mois de janvier 1894, p. 302.

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Diagnosis of pediculus capitis—D. W. Montgomery, p. 31.

Removal of pus tubes—A. Lapthorn Smith, p. 32.

Puerperal fever with high temperature—J. A. Temple, p. 36.

Traumatic aneurysm of the orbit—G. S. Ryerson, p. 38.

Decision concerning counter prescribing, p. 49.

Ontario Medical Journal, Feb. 1894.

Inherited syphilis with reference to eye and ear disease—A. J. Horsey, p. 239.

Case of cholecystotomy—F. B. Wilkinson, p. 241.

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(8.) Snow and Salt, p. 28.

Maritime Medical News, March 1894.

John Hunter—W. C. Crockett, p. 243.

Strangulated inguinal hernia three days old in a woman 77 years old; operation and recovery—Murdoch Chisholm, p. 246.

Proceedings of the Eighth Annual Meeting of the Association of Executive Health Officers of Ontario. Held at Guelph, Ont., June 27th and 28th, 1893.

(9.) Diphtheria epidemics; how propagated—C. A. Hodgett, p. 34.

Notes on the prevention of disease—A. Graves, p. 98.

(10.) The sanitary condition of factories in Ontario—R. Barber, Esq., p. 52.

Inspection of cheese factories—E. E. Kitchen, p. 67.

Sanitary needs of the farm—D. McRae, Esq., p. 76.

(11.) Pure water on the farm—F. T. Shutt, Esq., p. 79.

(12.) Toronto water supply—J. J. Cassidy, p. 88.

(13.) Epidemiology of outbreaks of specific diarrhœa—N. Walker, p. 104.

Defences of the Province of Ontario against cholera—J. Coventry, p. 127.

The sputa of consumptives as a cause of disease—W. H. Lowry, p 94.

How to purchase safe dairy cows—J. H. Reed, V.S., p. 118.

The Public Health Act in rural districts—H. Shurton, p. 130.

(14.) Systems of sewerage for small towns and villages—A. Macdougall, C.E., p. 137.

Public abattoirs—J. Wallace, p. 144.

(15.) The danger of a small-pox epidemic—P. H. Bryce, p. 114.

(1.) *Empyema.*—Dr. J. E. Graham (Toronto) calls attention to the rarity of mixed infection in cases of purulent pleurisy in spite of the fact that there may be present any one of a number of different organisms (streptococcus, pneumococcus, staphylococcus pyogenes, typhoid bacillus, etc). In one case, where the pus was of a distinctly greenish tint, the pneumococcus was the organism present. Compression of the lung from empyema may give physical signs simulating those of cavity. In left sided empyema the heart was not found to be so much displaced as in ordinary left-sided pleurisy with effusion. An excellent compilation of the more recent views on the subject of empyema is given in this paper.

(2.) *Climates Favourable for Consumptives.*—Dr. P. H. Bryce. (Toronto) considers that the unfavourable condition of cold, moist external air is exaggerated by the excessive dryness of house air in Canada. The relative proportion of deaths from phthisis per 1,000 living in Ontario for 1890 is stated as follows :—St. Catharine's. 2.7 ; Toronto, 2.3 ; Ottawa, 2.2 ; Kingston, 2.1 ; Belleville, 1.5 ; Hamilton. 1.4 ; London, 1.2 ; Guelph, 0.7 ; showing that consumption is less frequent in localities not situated near large bodies of water and least frequent in the central plateau of Ontario. In these regions the air is drier than elsewhere in Ontario, and there is a larger proportion of clear sunshine. Dr. Bryce suggests that consumptive patients should be sent to moderately warm dry climates with equable temperatures, rather than to high altitudes subject to great temperature variations. It is the daily range of temperature rather than the variations with the

various seasons which should be watched, as it is the changes occurring within a few hours, not days, which affect health and constitution and may oblige the climate to be regarded as an extreme one, although the mean annual temperature may be relatively warm. Dr. Bryce does not mention any of the Canadian health resorts in his paper.

(3.) Dr. J. F. W. Ross's case of suppurating myoma is remarkable in that after the birth of a first child in May, 1891, an enlargement was noticed upon the right side low down, and five weeks after confinement a purulent discharge, thick and foul smelling, began to flow from the vagina. There was a large abscess in the labium majus, and an intramural fibroid as large as a child's head was discovered bulging into both the uterine and peritoneal cavities. This formed a large sloughing mass and was freely scooped out. Now, not three years after this extensive disturbance of the uterine walls the patient has been safely delivered of twins and has made a good recovery.

(4.) In the course of a very able article, based upon his own observations and upon the results obtained by McEwen, Horsley, Southam and other English observers, Dr. Peters discusses the indications for operation in spinal lesions, and expresses himself cautiously in favour of operative treatment, more especially in cases of compression due to Pott's disease. Dr. Peters is "strongly inclined to give (his) allegiance to the advisability of operating in all progressive cases which prove unresponsive to a few weeks conscientious treatment by rest, fixation and extension. We may, by following this rule, sometimes operate on a case which would have recovered if left alone, but it is certain," he thinks, "that many such cases must inevitably perish unless they are saved by operation." Referring to the removal of tumours from the neighbourhood of the cord, he calls attention to the difficulties and dangers from great implication of the dura mater, to the nervous symptoms, the respiratory and cardiac troubles which may occur if it is not possible to bring together the margins of the dura and prevent the draining away of the cerebro-spinal fluid.

(5.) Dr. Oldwright's two obscure cases are:—1. A localised encysted peritonitis occupying the median line, so subacute in its development that there had been no history of disturbance.

This had lead to adhesions and effusions of such a character as to form a central and symmetrical tumour planted upon an infantile uterus. 2. Distended gall bladder and biliary calculi with septic complications. The patient died a day after the gall bladder was opened, and at the autopsy three abscesses were found high up in the posterior portion of the right lobe of the liver.

(6.) Dr. DRAKE reports an instructive case of rupture of the heart which presents several points of interest. The history given is that of a well developed athlete of 35 years of age, who, during the course of a cricket match, in which he was between the wickets, while more than one hundred runs were being made, suddenly after a short run felt a slight pain in the chest. Next day while bowling hard the pain returned, causing great distress, so that he was persuaded to go to his hotel. His pulse was rapid and weak, the heart action laboured, there was great prostration and pain extended over the chest and down the arms. The next day, apparently, he was much better and was permitted to travel to his home, where for several days there were severe paroxysms of cardiac pain, with intense pains in the hips, abdominal and gluteal regions. These disappeared on the tenth day, to be followed by phlebitis (?) in both legs, with threatened abscess formation in the left calf and both arms. This condition lasted for five weeks, and was followed by good recovery. About five weeks before his death he lifted a great weight of 200 lbs. under circumstances of difficulty and excitement, but this did not bring on any recognizable trouble. A month later the old precordial pains suddenly manifested themselves. The patient died suddenly one hundred and forty-five days after the initial disturbance. The autopsy revealed no arterial or valvular lesion but rupture of the heart in the usual position, the lower anterior surface of the left ventricle, with hæmorrhage into the pericardial cavity. This rupture had, it would seem, been preceded by partial rupture, for there was evidence of earlier tearing apart of the more internal musculature, with small celled infiltration between the fibres, and associated with this an adhesive pericarditis, the parietal pericardium being attached to the lower two-thirds of the anterior surface of the left ventricle. This localised pericarditis might, it is true,

have preceded and led to the giving way of the ventricular wall, but on the whole it would seem that Dr. Drake's contention is correct, that the adhesions followed upon the partial rupture, or ventricular aneurism. The interest of the case lies in the long period which elapsed before the rupture became complete, and in the history of multiple emboli succeeding the aneurism. There is no satisfactory reason to be suggested why the repair of the heart, which had proceeded so satisfactorily for nearly five months, suddenly showed itself to be insufficient.

(7.) *The Scarlatina Epidemic in Montreal.*—This paper contains the full text of Dr. Beaudry's report, of which a synopsis was published in the March number of the JOURNAL. (See page 709.)

(8.) *Snow and Salt as a Local Anæsthetic.*—B. recommends, in the absence of any of the usual local anæsthetics, the use of a mixture of powdered ice or snow and salt. In the extraction of teeth this may be applied to the gums, wrapped up in a napkin ; it may be used on any other part of the body.

(9.) *Epidemic Spread of Diphtheria in Sparsely Settled Regions.*—Dr. HODGETTS (Toronto) gives some interesting details concerning the spread of diphtheria by personal communication during the epidemic of 1887-88 in the Parry Sound district, north of Muskoka. In Nipissing village a number of cases appeared to have arisen from the use of a certain "throat atomizer, which was kindly loaned to spray throats with a view of preventing the disease." During the winter of 1888, 140 cases with 55 deaths occurred in 46 families scattered throughout the district, and often twenty to fifty miles from any medical aid. Until the time when an official inspection was made no attempt was made to secure isolation or other precautionary measures. In one case two members of a family, returning, subsequent to the death of a relative, had the body disinterred in order to view it, and soon afterwards took the disease and died. Upon enforcing a quarantine of 14 days, with private and speedy disposal of the dead and careful disinfection of the houses, the epidemic was soon controlled. In October and November, 1892, an epidemic disease broke out in a lumber camp and a hotel in the vicinity of the township of Niven, North Renfrew. In less than four

weeks the disease had been carried into 7 townships among a scattered community. The number of persons attacked was 74, of whom 28 died. The isolation of the sick persons in the lumber camp and the removal of the healthy to a new building at once caused this disease to disappear, not a single new case appearing.

(10.) *Sanitary Condition of Factories in Ontario.*—Mr. Barber, Provincial Inspector of Factories for Ontario, reviews the working of the Ontario Factories' Act, which also covers all workshops where six or more persons are employed. The commonest sanitary defect he found to be impure air; he considers the presence of 0.6 per 1000 of carbonic acid to have a gradual undermining influence upon the health. The Provincial Act does not fix any minimum of air space to each worker. The air in steam laundries was found to be particularly full of the products of imperfect combustion of coal gas. Dust was found to be most troublesome in foundries, wood-working establishments, and cotton, woollen and spinning factories. This could be regulated by means of powerful exhaust fans, but these had only been employed in the case of the foundries. The fumes arising in plating works were found very difficult to regulate by means of natural ventilation. The offensive odours of glue factories were found to be best checked by sprinkling the bespattered floors plentifully with strong solutions of common salt. As a rule it was found very difficult to secure the intelligent co-operation of the workmen in such sanitary measures as wearing respirators in dusty atmosphere, etc.

(11.) *Water Supply of Farms.*—Mr. Shutt (chemist to the Experimental Farm, Ottawa) has found as the result of a large number of water samples sent him from wells and springs on various farms throughout the country, that less than 10 per cent could be called first class in quality, and 70 per cent. had to be condemned as entirely unfit for drinking purposes. The reason for this found to be, in almost all cases, the proximity of the water supply to barn-yards and privies. Mr. Shutt thinks it likely, however, that the waters examined were worse than the average farm supply, as some illness must usually have given rise to suspicion as to their purity. At the same time it is evident that pollution of the drinking water on farms is much commoner than has been supposed.

(12.) *Toronto Water Supply.*—Dr. CASSIDY, chairman of the Provincial Board of Health for Ontario, strongly urges the advisability of utilizing the under-ground water from the gravel beds north of Toronto for the city supply. The York Waterworks Company claim to be able to supply their water at 3¼ cents per 1,000 gals. An analysis of the water made by Prof. Ellis gave in parts per million :—Chlorine, 2 ; free ammonia, 0.04 ; albuminoid ammonia, 0.03 ; oxygen absorbed in 15 minutes, 0.16 ; oxygen absorbed in 4 hours 0.32. Total solids 28.35 grains per gallon. Hardness 18.55 Clarke's scale.

It is claimed that an underground river, 300 to 500 feet wide, and 10 to 25 feet deep, is flowing down the valley to the north of Toronto, and that a supply of 14 million gallons daily can be obtained in 18 months, and one of 24 million gallons daily within 30 months, by sinking wells and tunnels of open brick work. The water lies between 50 and 60 feet below the surface at a heigth of 400 feet above Toronto bay. Its temperature is 45°F., and it is supposed to be derived from the vicinity of Lake Simcoe.

The utilization of this water supply is recommended by Dr. Cassidy in preference to the construction of a water tunnel for Toronto, the construction of filter beds and the obtaining of a supply by gravitation from the northern lakes.

(13.) *Epidemic Diarrhœa from Contamination of Drinking Water.*—Dr. WALKER (Toronto) describes an outbreak of choleraic diarrhœa during the winter of 1892-93, which probably affected 5,000 persons, the Board of Health having knowledge of 1293 cases. The average duration of illness was about 5 days, though the cases might last from a few hours to several weeks. The other symptoms noted were vomiting, headache and fever with great prostration, and in some cases bronchial disturbance. The cases nearly all occurred in the 10 weeks following an accident to the intake pipe of the water which caused the city water supply to be pumped from the sewage polluted Toronto Bay during this period. A few cases, however, occurred previous to the accident. In many houses the cases ceased where all water was boiled before use, or filtered through a Chamberland filter. The weather during this period was steadily cold. (The accident referred to happened on December 25th, 1892. The cases of typhoid fever

reported at Toronto in the following months were 111 in February, 108 in March, 138 in April and 15 in May).

(14.) *System of Sewerage for Small Towns and Villages.*—Dr. McDougall recommends the introduction of small (6 inch) sewage pipes running at the backs of the houses and connecting with the main drains at each block. These can be placed, if necessary, quite near the surface of the ground, as sewage does not tend to freeze readily, and may be covered with some material protecting against frost.

(15.) *Danger of Small-pox in Ontario.*—Dr. Bryce called attention to the fact that there were probably about 400,000 children in Ontario who were unvaccinated. This, in face of the existence of small-pox in various parts of Europe and America, constituted a serious menace to health.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, Feb. 23rd, 1894.

JAMES BELL, M.D., PRESIDENT IN THE CHAIR.

Cholesterin Cyst of the Testis.—DR. ADAMI exhibited a cyst of the tunica vaginalis testis, removed post-mortem, which contained two ounces of a clear fluid, full of pure cholesterin crystals. The history of the case was that the patient, a man advanced in years, was brought into the hospital with paralysis of the left side, and with deviation of the eyes to the right. He rapidly lost consciousness, and after lingering a few days, died. At the autopsy a large hæmorrhage was found in the corpus striatum. There was a condition of general arterio-sclerosis, granular kidneys, emphysematous lungs and hypertrophied heart. On the right testicle there was a large cyst, apparently in front of the organ and full of fluid. The walls were thickened and atheromatous and contained calcareous plates.

The question as to the origin of the cholesterin was difficult to answer. Cholesterin in large quantities may be found in connection with dermoids and with atheromatous degeneration, but in both cases the crystals are almost always found associated with fatty debris. Old chronic hydroceles are recorded also as showing atheromatous conditions of their walls, and occasionally containing large quantities of cholesterin. Such is probably the nature of the cyst in question, but how and why the crystals are deposited in large quantities requires further explanation.

DR. JOHNSTON had seen cysts in various parts of the body which were lined with squamous epithelium and contained cholesterin. He had seen one such cyst situated deep in the cervix uteri.

DR. ADAMI said that atheromatous cysts are found in connection with the scalp, but in such cases fat and broken down tissue are among the contents, while in this case there was no fat or debris.

Dr. SHEPHERD exhibited the following specimens :—

(1.) *Supernumerary Digits in the Pig's Manus.*—Two pig's

fore-feet were shown, each with a supernumerary digit. In each case the digit was the lost pollex, and with it was reproduced to its full size, the os trapezium which, in the normal manus of the pig is a small rudimentary ossicle. Dr. Shepherd remarked that the re-appearance of the lost digit in the pig's manus was not very uncommon, and said that the normal manus consisted of two hanging toes, the second and fifth, and the toes which reached the ground, the third and fourth, so that when a supernumerary digit was seen it was always the lost pollex, and with it was reproduced the os trapezium of the carpus. A couple of years ago he presented to this society a specimen of a pig's manus having a pollex and pre-pollex, six digits in all, a variation which was of greater rarity than the one above described.

(2.) *Boat Shaped Negro Skull.*—The skull was that of a full-blooded negro, and with a very small cranial capacity, in fact micro-cephalic, and very prognathous. The skull was long and very narrow, and of the form usually described as scaphoid. This was due to the absence or early obliteration of the sagittal suture, hence the transverse growth being prevented, a great increase takes place in the vertical and longitudinal direction, thus giving the vault of the skull a boat-shaped shape. This was well shown in the specimen exhibited. At the site of the anterior fontanelle the bone was raised into a prominent boss, due no doubt to the later ossification at this point. This form of skull is said to be common amongst the Scotch, hence the term "long headed Scotchmen."

(3.) *Skeleton of Hawk with Multiple Fractures.*— This specimen exhibited healed fractures of the femur, breast bone and the radius and ulna of each wing. The fractures had been no doubt due to shot, as one pellet was found in the breast bone and another in the right bronchus. The amount of callus thrown out was enormous, being necessary to unite the fractured ends of the bones which were a considerable distance apart.

Necrosed Polypus of the Uterus.—Dr. Lapthorn Smith exhibited the specimen which he had removed from a woman fifty-five years of age, the menopause having occurred several

years before. For two weeks the patient had suffered from a profuse fœtid discharge. Her physician found a large mass in the vagina, which was easily broken and bled profusely, so he thought that the disease was cancer. Dr. Smith found that the mass was movable, and under an anæsthetic, when he had removed a large quantity of necrosed tissue, discovered a pedicle springing from the fundus, and which was easily removed. After thorough disinfection, the uterus was stuffed with iodoform gauze; the patient made a complete recovery. Dr. Smith pointed out that the fœtid discharge, accompanied by hæmorrhage, rendered the suspicion of cancer very strong, especially in a woman so long past the menopause.

Cancer of the Body of the Uterus.—Dr. Lapthorn Smith exhibited a specimen of extensive cancer of uterus, in which the disease was confined to the body, the cervix showing no appearance of being affected. The patient had suffered from hæmorrhage, coming on several years after the menopause. Portions of tissue removed by the curette proved the disease to be cancer.

Osteo-Sarcoma of the Tibia and Fibula.—Dr. Hingston exhibited a tibia and fibula, in which large excavations were situated deep in the substance of the bones near their heads. The patient had come to him five months before, with a large, hard swelling at the back of the knee. Recognizing the malignant character of the growth, operation was advised, but the man would not submit until three days ago, when the leg was removed by the circular operation a little above the condyles of the femur. There were large cavities on the posterior surface of the bones just below their articulating surfaces, where the tumour had been removed, and the periosteum was detached for some distance on both bones. The appearance of the bones would lead one to suspect strumous disease had not the history of the case and the presence of the tumour pointed unmistakably to osteo-sarcoma.

Poisoning, Possibly from Lead, after Eating Canned Tomatoes.—Dr. Johnston and Mr. Wolff reported a case of a girl, aged seven, who was taken violently ill with vomiting

and collapse within two hours after eating a large quantity of tomato soup. Of the other members of the family, who had eaten the soup, the mother suffered from headache and nausea, while the rest were unaffected. The child died within sixteen hours. At the autopsy, no natural cause of death was found, but chemical analysis made independently by Dr. Ruttan and Mr. C. F. Wolff, showed the presence of a large quantity of lead within the liver. The case was of interest owing to the frequency of poisoning from canned goods, and the rarity with which any evidence pointing to the absorption of mineral substances had been established by analysis of the viscera.

Dr. T. D. Reed considered the evidence of lead from the tomato can being the cause of death in this case quite inconclusive. Canned goods are used in enormous quantities, and death from the lead in them is unheard of. Fatal acute poisoning from any lead salt is extremely rare, several drachms per day of lead acetate are given therapeutically, and quantities of one ounce have failed to cause death. The entire amount of solder in a tin would only represent a very few grains of lead. The few cases of death from canned goods heretofore reported have been attributed to decomposition of the contents of the can, but in this case, as the material was boiled into soup, it is difficult to accept the eating of the tomatoes as the cause of death. Most persons carry about with them in their bodies a small quantity of lead.

Dr. Johnston replied that the remaining contents of the can could not be obtained. He pointed out that though large quantities of the acetate may be taken with impunity, some other salts, notably the chromate, were highly poisonous. Some such poisonous salt may have been present in this case.

Dr. Hingston remarked that the carbonate, which is a poisonous salt, may be formed from the decomposition of the acetate.

Dr. F. W. Campbell suggested that the fatal result might have been due to decomposition of the tomatoes, and referred to two cases, that had recently come under his care, of severe poisoning from eating canned salmon. He pointed out that

many years ago Dr. Joseph Workman recommended drachm doses of the acetate of lead for post partum hæmorrhage, and he recalled a case which appeared to be acute lead poisoning following this treatment.

Intestinal Anastomosis with the Murphy Button.—Dr. Lapthorn Smith demonstrated the method of using this instrument for rapidly and effectually securing union between two portions of the intestinal canal, while leaving a lumen for the passage of the contents. The instrument consists of two metal discs, each having a central orifice about 1.50 c.m. in diameter. Each disc is attached to a portion of the bowel by having the free edges of the bowel drawn inward over it by a purse-string suture. The discs are then approximated and held in position by means of a spring which keeps up a continuous pressure upon the serous surfaces until union takes place, after which the compressed tissues slough away and the button is passed with the fæces. The advantages of this device are the rapidity and ease with which the operation is performed, the certainty of union, a large opening for the passage of the bowel contents while the union is taking place and the little or no tendency to subsequent constriction.

Amœbic Abscess of the Liver.—Drs. Finley and Adami exhibited the specimens and gave the history of the case. (See page 728.)

Dr. Lafleur stated that this was the first case of the kind reported in Canada. The presence of abscess without dysentery is not at all unusual. He had seen three cases in Baltimore, which began as abscess of the liver, and in which it was only secondarily discovered that the patient suffered from dysentery, and in fact, this was so slight that it did not form an important part of the disease, the lesions in the bowel being very secondary and unimportant compared with those in the liver. The anatomical picture in this case was exactly like that he had observed in a good many fatal cases of liver abscess, in which the amœbæ seemed to be the cause of the disease, and he had no doubt that the microscopical examination would be found to correspond. The pus of the abscess really consists of masses

of softened necrosed material, and, as a rule, unless there has been a coincident infection by pyogenic organisms, the leucocytes are very few in number. He added that since he had written his share to the contribution on "Amœba in Dysentery," there have appeared in Germany and Austria a number of works upon the subject, which seem to favour the existence of a distinct form of dysentery caused by the amœba coli and which confirm the work done in Baltimore.

Stated Meeting, March 9th, 1894.

A. D. Blackader, First Vice-President, in the Chair.

Dr. O. F. Mercier was elected a member of this Society.

Xanthoma Tuberosum.—Dr. Shepherd showed a case and gave the history as follows :—The patient was a woman, aged fifty, who had suffered severely from jaundice, and was at present jaundiced. Three weeks before she had noticed some yellowish looking tubercles under the skin, which were of the size varying from that of millet seeds to that of peas. These grew larger and others appeared in the normal lines and folds of hand, and often on the surfaces of phalangeal joints; here the tubercles were fused together into a raised yellowish band, which were subepithelial. These growths looked as if they contained fluid, but on pricking them it was seen that they were dense and fibroid in character. Latterly tubercles of same character had appeared on the elbows and knees and also on the lips and side of nose. They were excessively painful when touched and pressed, and itched a great deal. The hands were continually perspiring. Dr. Shepherd said this was a somewhat rare disease, and was more common in women than men being often but not constantly associated with jaundice. The tubercles are not connected with the sebaceous glands as seen by their appearing so abundantly in the palms of the hands. They are no doubt growths of connective tissue with fatty degeneration, this giving the yellow appearance. They sometimes occur in the throat and fauces, trachea, heart, &c. Treatment is of little avail. The patches often disappear spontaneously.

Dr. Adami had made only a cursory examination of portions

of the growths that had been sent to him, but would give a full report to the Society at a later date.

Dr. Buller had seen a great many cases of xanthelasma of the eyelids, and he thought that there must be some marked underlying difference between the pathological processes of this disease as found in the eyelids and in the other parts of the body. In these cases he had never found any tenderness of the diseased portion, nor could he ever elicit any history of sick headache or hepatic affection, though he always made careful enquiries.

Dr. Foley enquired whether the growth was strictly confined to the corium or whether it penetrated into the deeper structure; he also asked if cholesterin crystals were present.

Dr. Adami replied that as the corium and the fibrous tissue below was very indefinite, Dr. Foley's question was difficult to answer; no cholesterin was found.

Arthrectomy.—Dr. Armstrong brought before the Society a man in whom a particularly favourable result had been obtained of an arthrectomy of the knee-joint, a partial incision having been performed last September. As could be seen, the man walked well and had a considerable amount of motion in the joint; the patella was also quite movable. The operation was performed by the transpatellar incision, the sections being reflected up and down, the tubercular disease was shaved off the patella and condyles, the patella was then sutured and the wound closed without drainage. The portions removed were submitted to Dr. Adami, who reported them to be tubercular. They seemed to resemble the dry atrophic form of tuberculosis which sometimes occurs in arthritic joints, the *caries sicca* of Volkmann.

The history of the case, which presented many points of interest, was as follows:—The man came to the hospital early last spring complaining of severe pain and practical immobility of the knee-joint. This pain was so severe that hypodermics of morphia were required to relieve him. There was very marked atrophy of the joint, which was then even more plainly seen than at present, the measurements being one to one and a half inches less than on the sound side. At the same time when the knees were placed together one could hardly tell which was the diseased joint, the outlines of the affected one

being perfectly normal, there was no œdema, no puffyness, no redness to indicate disease.

In the absence of physical evidence, Dr. Armstrong hesitated to operate and sent the man home after the pain had become somewhat relieved. He, however, shortly afterwards began again to annoy his family physician, who sent him back to the hospital with an urgent request that something should be done. The operation was then performed with the result already mentioned.

The case is of interest as showing a relationship between joint disease and arthritic atrophy, the pain and atrophy being here more marked.

Dr. Armstrong then cited the history of a case of hip joint disease, presenting very similar features, which he had met during last summer. Here also pain and atrophy were the only symptoms. With Dr. Shepherd he had examined the patient under ether several times without being able to decide on operation, but as the great pain was wearing the man down to a shadow, he at last opened the joint and found distinct tubercular disease in the floor of the acetabulum, and the head of the femur was in a condition of caries.

The result had been very favourable, and Dr. Armstrong regretted that he could not find the man to bring him before the Society.

Dr. Shepherd had seen the case with Dr. Armstrong, and from the external appearances no one would have thought that there was a tubercular condition present in the joint. From the experience gained from this case he would be more ready to open such joints in future.

Dr. James Stewart on being asked te express his views on arthritic atrophy, thought that there was but little to be said on the subject; there are explanations for all forms of atrophy except this one. Some hold that its nature is that of a reflex process, but this is a convenient term to use, when we know nothing about a subject, and such is probably the case here.

Frogs with the Cerebrum Removed.—Dr. Mills and Morrow exhibited two frogs deprived of the cerebrum, and demonstrated that they were capable of co-ordinated movements of the most complicated kind, including Goltz's "balancing experiment," *i.e.*, the frogs would, when a surface on which they

were resting was gradually tilted, move in order to maintain their position. They would also turn over when placed on their back. The frogs had been operated on about a month previously, and during all this time had never made one spontaneous (voluntary) movement; they had not, *e. g.*, attempted to leap out of the dish in which they had been sitting under a water tap. This showed that the removal of the cerebrum abolished voluntary movement, but that all the mechanism necessary for co-ordinated movements remained. These frogs were shown especially, because it would appear that certain changes in the nutrition of the animals had taken place leading to necrosis of the skin, etc., and ulceration. On one occasion, when the surroundings had been changed, one of the frogs had shown tonic spasm of the limbs. This reminded Dr. Mills of what Prof. Goltz had told him, when a worker in his laboratory in 1884, that many of the dogs whose cerebrum had been operated on died in convulsions weeks or months afterwards. The frogs in question had been in only fairly favorable surroundings and had been given a little food a few times, but food was of minor consequence to frogs in winter. A frog that had not been operated on, and kept under somewhat similar circumstances, was shown and seen to be in a very different state of health. Dr. Mills thought the operation had greatly lowered the vitality of the frogs and this was one of the chief lessons conveyed.

Dr. Wilkins was of the opinion that a portion of the cerebrum remained intact in these frogs, as they had made an attempt to get away, which action involved a series of movements, implying volitional power, and volitional power cannot exist with no portion of the cerebrum intact. In a frog with the entire cerebrum removed, on stroking the flanks a single croak is elicited, but the debilitated condition of these frogs may explain the absence of the sound. Dr. Mills had expressed a doubt about frogs swallowing each other, but the speaker thought that he was mistaken. He had more than once, in his own laboratory, upon opening frogs found bones in their stomachs, and on one occasion he had positive evidence that frogs do eat each other, for on hearing a splash and a croak he hurried to where the frogs were kept, and found one frog with the hind legs of another sticking out of

his mouth, and which he immediately removed. He thanked Dr. Mills for his demonstration, and hoped that he would bring similar cases before the Society in future.

Dr. Adami referring to the length of time that the frogs had lived, quoted a Russian observer who kept a pigeon alive a whole winter after the removal of the cerebrum. He further suggested that as an explanation of the double movements spoken of by Dr. Wilkins that the severity of the stimulus was sufficient to account for it.

Dr. Mills in reply, thought that Dr. Wilkins was confounding the actions of frogs with the cord only remaining with those, as in the present case, with cord and medulla. Whether it would turn out that these frogs had the whole cerebrum removed or not, he had certainly seen cases, in which the whole cerebrum had been removed, act in a manner similar to these.

Complete Double Ureter.—Dr. Adami read the report of the case and showed the specimen. (See page 736.)

Dr. Shepherd had met with a great many cases of abnormal blood supply of the kidney, and partial double ureter, but the only other case that he had seen of complete reduplication was the one taken by Dr. Adami from the museum to compare with the case reported.

Mitral and Tricuspid Stenosis.—Dr. Finley exhibited a heart in which both mitral and tricuspid stenosis was well marked. The orifice of the mitral valve admitted the tip of the little finger, that of the tricuspid the first finger. The changes in the left ventricle were not marked; if anything, its cavity was somewhat smaller and its walls thin; the right ventricle, while its walls were slightly thickened and its cavity dilated, did not present that extreme degree of enlargement commonly found in mitral stenosis; the right auricle was the largest of all the cardiac cavities. The lungs presented numerous reddish patches, which on microscopical examination proved to be hæmorrhagic infarcts.

The following is the history of the case:—The patient, a female, æt. 33 was admitted to the Montreal General Hospital in November, 1893, for pain in the side and cough. She had suffered from repeated attacks of sore throat, sometimes going on to suppuration, but had never had rheumatism or chorea.

Dyspnœa on exertion had been present for three months before her admission. She had never had hæmoptysis. The family history presented no feature of importance, and there were no rheumatic tendencies. The present illness began four days previous to admission with a slight chill, cough and pain in the right side.

Physical Examination.—Moderate emaciation, slight cyanosis of lips and cheeks, with stellate venules on face. Temperature sub-normal. Cardiac impulse forcible and somewhat heaving over lower sternal region. Apex in fifth space ¼ inch inside nipple. Marked presystolic thrill at the apex. Cardiac dulness normal. A harsh rumbling presystolic murmur is heard, but to inner side of the apex, and localized over a space two inches in diameter. The first sound is abrupt, greatly accentuated and snapping in character. A soft systolic murmur is heard between the lower sternal area and the nipple. The pulmonary second sound is enormously accentuated and reduplicated. Below the angle of the scapula on the right side dulness, feeble breathing, with diminished vocal resonance and fremitus. A small quantity of clear serum was drawn off a few days later with a hypodermic syringe. The first sound at the tricuspid area is feeble. The pulse 102, small, regular and of low tension. The other organs are normal, and the urine reddish yellow in colour, s.g. 1025, no albumen or casts. Ordered digitalis ℥.x ter in die.

Nov. 14.—Fluid in pleura reaches fourth rib in front. Temperature 99 to 100 in the morning and about 100 at night, became normal at this date. Digitalis dropped on account of vomiting.

Feby. 15.—The presystolic murmur and thrill disappeared and ten days later pulse became extremely weak, paroxysmal attacks of intense dyspnœa and cyanosis came on, death resulting apparently from cardiac failure. The urine averaged 20 to 30 ozs. daily whilst under observation. There was at no time any œdema of the extremities or serous sacs.

The physical signs left no doubt that the mitral valve was narrowed, but there was, during life, no evidence made out indicating disease of the tricuspid. On looking back, however, on the case, he was inclined to think that the systolic murmur heard in the lower sternal area was possibly a tricuspid sound.

It was impossible to find the onset of the disease—there was no history of rheumatism—but judging from the condition of the cardiac orifices it must have been of a good many years standing, and the case furnishes another instance of the extreme degree to which cardiac disease may advance and yet compensation be maintained A point of interest in connection with the first sound of the heart in mitral stenosis is the cause of its peculiar snapping character It is, perhaps, difficult to give any satisfactory explanation. The point has been much debated, and many authors think that the thickened condition of the valve, in itself, would preclude the possibility of its emitting such a sound. Recently a paper has been published by Fenwick and Overend in Am. Jour. Med. Sc., 1893, stating that the peculiarity of the first sound of the heart occurring in mitral stenosis is really due to the closure of the tricuspid valve in the hypertrophoid right ventricle. The present case, however, certainly negatives such a view as the tricuspid valves were rigid, and yet the first sound was as sharp, snapping and loud as in cases of uncomplicated mitral stenosis.

Dr. Martin had examined the lungs and found a rather curious condition resembling somewhat broncho-pneumonia, but sections proved the condition to be only hæmorrhagic infarction, with slight desquamation of the epithelium.

Dr. Lafleur remarked that the specimen was of interest, as all records show tricuspid stenosis to be a rare lesion. With reference to Dr. Finley's suggestion as to the possibility of there being regurgitation through the tricuspid valve—if such had been the case there must have been pulsation of the veins; he asked if such a condition had been noticed. With regard to the situation of a systolic murmur as indicating tricuspid disease it is not of diagnostic value.

Dr. Finley replied that there was very slight pulsation of the veins which seemed to come from below, but certainly was not a very marked condition—but as there are so many forms of pulsation of the vessels of neck, he did not lay much stress upon this condition.

Wound of the Heart.—Dr. Shepherd reported the case as follows :—In the summer of 1892 he was summoned to a case where it was said the patient, who had alcoholic mania, had

pushed two needles into his heart. The patient when seen was lying on the floor and seemed in great distress, but calmly told the doctor that he had tried to kill himself by pushing needles into his heart. On examining the region of the heart with every beat the skin over the apex seemed to be pushed up by something beneath; this felt like a needle. An inch out from this another needle could be felt deep down in the intercostal space. The patient said that he had pushed both needles out of sight beneath the skin with a sharp end of a file. Dr. Shepherd made an incision over the needle in the apex of heart, and by pressing in a needle holder caught the end of the needle and pulled it out. The second needle was extracted with greater difficulty on account of its depth, both layers of intercostal muscle having to be cut before the needle was reached. The patient during the operation gave no evidence of pain. The needles were small darning needles, measuring a little over two inches in length. The patient never suffered any trouble from the injury, and was as well next day as ever. The wounds both healed by first intention.

Dr. Mills spoke of the condition known as delirium cordis set up by wounding certain points in the heart and referred to the suggestion made by a writer in the *Medical News* some years ago, to make use of this procedure to restore the heart's action after chloroform syncope, but he thought that this step would be of doubtful value as the heart may or may not recover from this condition of delirium.

Dr. Lafleur recalled the specimen of a bullock's heart, exhibited by him four years ago, in which a large wire had forced its way from the stomach into the heart, penetrating the ventricle and auricle. There was evidence that this process had existed for some time, as the wire had worn a regular groove for itself in the ventricular muscle. Septic infection has been set up from the communication with the stomach.

Dr. Shepherd referred to a paper read by Dr. Praeger, before the Canada Medical Association, in which he mentions a case of chloroform syncope which was restored by sticking a needle into the heart.

Congenital Defects of the Anterior Pillars of Fauces.—Dr. H. D. Hamilton read the report as follows:—I have been fur-

nished, through the courtesy of Dr. George W. Major, with this report of a somewhat rare malformation, which it is proposed should here be put on record. It is interesting as a curiosity and also because of the practical importance of diagnosing it from other affections.

J. C., member of the civic police, 25 years of age, a subject of laryngeal phthisis, was referred by Dr. Molson for local treatment on 8th Dec., 1890, to the Department for Diseases of Nose and Throat, Montreal General Hospital.

On examination, the anterior pillars of the fauces presented two longitudinal slits or fissures, the left being slightly the larger, and measuring half an inch in length, by about $\frac{3}{16}$ of an inch in width at the widest part. These openings were of a somewhat oval form extending down to the base of the tongue, and as the tonsils were deficient, the condition was very easy of observation. There was no evidence of cicatricial tissue anywhere, the edges of the opening being smooth, and presenting the natural appearance of the surrounding parts.

In the *Archives of Otology* for January, 1892, Max Tœplitz, of New York, reports a case and states that the literature on the subject contains but six similar observations up to that date.

The cases so far recorded have been (1) by Walters in 1859.

(2). J. Solis Cohen, in the *Medical Record* of 1878, and also in the 2nd edition of his work on Diseases of the Throat, where the condition is explained as a separate investment of the fibres of the palato-glossus muscle.

(3.) Lefferts reports a case in the *Philadelphia Medical News* for 1882, besides communicating privately with Tœplitz regarding two unpublished cases in 1890.

(3.) Chiari reports a case in August, 1884. (Monatschrift fur Ohrenheilkund); (5.) Schapringer another in 1884; (6.) Clarborne another in the *American Journal of Medical Sciences* of 1888, one-sided. One-sided defects have also been noted by Schapringer and Tœplitz.

Dr. Birkett had seen a case referred to him by Dr. Buller where the congenital defects existed on one side only. There are a number of such cases on record, but as yet no explanation as to how they occur has been satisfactory.

New Inventions.

THE OBTURATOR SYRINGE.

The Obturator Syringe is a vaginal syringe, embodying retention and distention—an instrument intended to take from the physician the practically impossible and certainly indelicate task of cleansing the genitals, doing it more quickly, more conveniently and more thoroughly than the most skilled hand with the best of instruments. It consists of an injector or supply-tube and bulb, exhaust-tube and the expanding vaginal obturator, all attached to and forming part, so to speak, of a hard rubber nozzle, a trifle over 3 inches long by ¾ inch diameter, intended for insertion within the mouth of the vagina, just beyond the sphincter, the soft rubber obturator which fits round the neck of the nozzle being inflated by means of an air bulb until the orifice is tightly, albeit painlessly, closed ; after which injection is made, or water turned on from a fountain syringe, the flow being limited or continuous, at the user's will, as the exhaust tube is provided with a shut-off. The inflated obturator holds the instrument securely in position, in other words, makes it entirely self-holding and water-tight, allowing no drop of the douche to escape on dress or bedding, and causes the injected fluid to smooth out the crypts and folds of the vagina more effectively than can be done by the most careful manipulator with the speculum. Altogether it seems to us a most unique and very valuable invention. It is manufactured by the Obturator Syringe Co., 122 West 23rd Street, New York.

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SIXTY-FIRST CONVOCATION OF THE MEDICAL FACULTY OF McGILL UNIVERSITY.

The annual convocation for conferring degrees in medicine at McGill University was held in the William Molson Hall on Thursday afternoon, April 5th. The Chancellor, Sir Donald Smith presided, supported by the members of the University. The graduating class occupied seats directly in front of the platform, and the hall was filled with friends and relatives, come to offer good wishes and congratulations.

Rev. Dr. Clark Murray opened the proceedings with prayer, after which Dean Craik read the report on the examinations, showing that the total number of students enregistered in the faculty during the past session had been 350, and that of these 55 had fulfilled all the requirements entitling them to the degree of M.D., C.M.

The winners of the medals and prizes were presented with the honours won by them, receiving them from the hands of Sir Donald Smith, and afterwards the graduating class came forward for the conferring of their degrees, the oath being administered by Dr. Ruttan, the "capping" performed by Dr. Johnson, and the diplomas handed to the graduates by Mr. Brakenridge.

Dr. A. Davidson delivered the valedictory, in the course of which he paid eloquent tributes to the memories of the late Dr. McDonnell and Dr. Geo. Ross, professor of clinical medicine and professor of medicine respectively, and said that the only feeling the class of '94 entertained towards the professors was one of admiration, confidence, respect and gratitude.

Prof. James Bell, on behalf of the faculty, addressed the graduating class. (See page 721.)

Before proceeding to sum up the work of the session, Dr. Craik read an extract from a letter from Sir William Dawson, who had expected to be present at the convocation, but found himself unable to be there. Sir William said it was always a great pleasure to him to see the young men come up for their degrees, and to think that they were going out to reduce the sum of human misery.

Dr. Craik then spoke as follows : " The sixty-first session of the faculty of medicine of this university, which closes to-day, though not differing greatly from those which have immediately preceded it, has, nevertheless, been marked by some important incidents and occurrences which call for more than a passing notice.

" The steady increase in the number of our students, which has been going on without interruption for several years, has this year been greater than ever. In 1891-'92 the number was 291; in 1892-'93 it rose to 312, and this year it has reached the gratifying figure of 350. Of this number 135, or rather more than one-third, were from this province; 108, or a little less than one-third were from the province of Ontario, and the remainder 107, also a little less than one-third were from the other provinces, the United States, the Northwest territories and the West Indies. It seems to me that it is a matter for sincere congratulation that this province, and McGill University in particular, should be able to attract students in such numbers from so wide an area. And not merely are they attracted to the university as a moth might be attracted to a flaring light, to scorch its wings and, if possible, to flit away again, but they remain with us, as a rule, through their entire course of medical study, culminating year by year, as you see to-day, in a bright class of graduates, eager and enthusiastic, well equipped, as we believe, for the battle of life, and carrying with them to their homes the respect and the good wishes of their teachers and the community. Of the 55 graduates who take their leave of us to-day, 17, or nearly one-third, are from the province of Quebec; 19, or a little more than one-third, are from the province of Ontario, and 19, also a little

more than one-third, from the other provinces, the Northwest territories and the United States.

"It will thus be seen that the work of this faculty has become continental rather than provincial, and that, not on account of its cheapness, for our fees are greater tha i those of most other medical schools, but rather, we are fain to believe, because our aims are higher, and our means of realizing them have been, and now are, exceptionally good.

"Our faculty has long recognized the importance of clinical and practical work, and has endeavored to give them due weight in its curriculum. The clinical instruction in the wards of the Montreal General Hospital has in the past, perhaps more than anything else, attracted earnest students to our school; and supplemented as it has been by practical courses in anatomy, chemistry, histology, physiology, and latterly of pathology, with hygiene in process of active organization, we may reasonably claim to take rank as a working faculty second to none on the continent. But great as have been our advantages for clinical work in the past, they have now been practically doubled by the opening of the Royal Victoria Hospital. That magnificent charity, the gift of our Chancellor and Lord Mount-Stephen, has now entered upon its work, and in the completeness of all its appliances for the relief of suffering, as well as for medical teaching, it is proving a great boon to suffering humanity as well as to the cause of advanced medical education. But with all this wealth of clinical material, and with a firm determination to utilize it to the very utmost, we must be careful not to let it destroy the proper equilibrium of our curriculum. Too great a preponderance of didactic and descriptive work was a serious evil in the past; let us be careful that the educational balance does not oscillate too far in the opposite direction. In a properly adjusted system, theory and practice should go hand in hand, and the principles which are to guide us in practice are quite as important as the practice which is to be founded upon them. Without a through knowledge of the principles, a man becomes a mere empiric or handicraftsman, just as without adequate instruction in practical work he is likely to become a mere theorist and a visionary; but with careful, practical training,

built upon sound principles intelligently applied, we may reasonably look for such a degree of harmonious completeness in a man's medical education as shall fit him safely to undertake the onerous and responsible work which is before him. Such an education, according to our opportunities, it has always been our aim to give, and with our greatly enlarged facilities it must be our aim to maintain the normal equilibrium, that our graduates may not tend to become mere theorists on the one hand, nor mere empirics on the other, but thoughtful, intelligent and skilful men, to whom human life and health may safely be entrusted.

"Of the changes in the *personnel* of the faculty since last convocation it is only necessary to say that they are such as were rendered necessary by the lamented death of our late vice-dean and professor of medicine, Dr. Ross, and by the increased clinical ground to be covered by the opening of the Royal Victoria Hospital. Our well tried friend, Professor Stewart, was promoted to the chair of systematic medicine, but was allowed to retain also the chair of clinical medicine. A new chair of laryngology was also created, and Dr. George W. Major, one of our own graduates both in arts and medicine, who has acquired considerable distinction in that specialty, was appointed to it. The following gentlemen were appointed lecturers in the faculty:—Dr. Alloway in gynæcology, Dr. Finley in clinical medicine, Dr. Birkett in laryngology, Dr. Lafleur in clinical medicine, Dr. Armstrong in surgery and clinical surgery, and Dr. Burgess on mental diseases. The following gentlemen also were appointed demonstrators and assistant demonstrators:—Dr. Sutherland, demonstrator in surgery; Dr. Johnson, demonstrator in bacteriology; Dr. Elder, assistant demonstrator in anatomy; Dr. McCarthy, assistant demonstrator in anatomy; Dr. Evans, assistant demonstrator in obstetrics; Dr. Gunn, assistant demonstrator in histology; Dr. Morrow, assistant demonstrator in physiology; Dr. Kirkpatrick, assistant demonstrator in surgery; and Dr. Martin, assistant demonstrator in bacteriology. Of all these gentlemen I may say that they have shown ability and interest in their work and have added very considerably to the efficiency of the faculty.

"The princely gifts of our chancellor, Sir Donald A. Smith, and our senior governor, Mr. John H. R. Molson, which it was my happiness to announce at last convocation, have already borne good fruit in the housing and equipment of our department of practical pathology in a manner which leaves little to be desired. The substantial stone building on the property acquired for us by Mr. Molson has been converted into a convenient and efficient pathological laboratory and under the able management of Prof. Adami, with competent assistants, that department may be considered firmly established on a satisfactory basis. The proposed extension of our other buildings rendered necessary by the increasing number of our students, has also been provided for, and we hope that before the beginning of another session the new buildings will be ready for occupation.

"With reference to hygiene and public health, which heretofore may be said to have been absolutely without equipment of any kind, comparatively little has yet been accomplished; but, thanks to the generous endowment of the chair last year by our Chancellor, a beginning has been made, and in the meantime the whole of the revenue from the endowment is being set aside for the thorough equipment of the department in the new building on the most modern and scientific principles.

"It has been our good fortune this year, as on some former occasions, to have received substantial proofs of the goodwill and active interest in the welfare of the faculty at the hands of persons not directly connected with the university. The late Miss Jane Learmont, of 793 Sherbrooke street, whose death took place in May last, bequeathed the faculty the sum of three thousand dollars, to be added to its permanent fund and to be free of legacy duty. To myself personally, this bequest is specially gratifying, for it has rarely been my good fortune to enjoy the personal friendship of one so patient and cheerful under great and protracted suffering, or one so unselfish in seeking in every way to secure the happiness and welfare of others rather than her own. Another gift which we value most highly, but which is of a more esthetic and sentimental kind, has come to us from a source and in a way

which are peculiarly gratifying. It is no less than a portrait in oil of the founder of our medical school, the late Dr. William Robertson, of this city, presented to the faculty in loving remembrance by his family and descendants. He was the chief of the four "good men and true," Drs. Robertson, Holmes, Stephenson and Caldwell, who founded the nucleus of our medical faculty in what was then called the Medical Institution, in 1824, exactly three score and ten years ago. Dr. Robertson was born on his father's estate of Kindrocket, in Perthshire, Scotland, in 1774, and came to this country as an army surgeon in 1806. He married the daughter of Chief Justice Sir William Campbell, and after retiring from the service, established himself in practice in Montreal, and continued at the head of the medical profession in this city until his death in 1844. Three of his daughters still reside in Montreal, Mrs. MacCulloch, Mrs. Hooper and Mrs. Pangman, and his eldest daughter, Lady Cunningham, still lives at her late husband's estate in Ayrshire, Scotland. His only son, the late Mr. Duncan Robertson, of this city, died a few years ago, leaving a daughter and three sons to perpetuate the name. The faculty had already begun to establish a portrait gallery of those who have been prominently connected with it. It has excellent portraits of Drs. Holmes, Sutherland, Campbell, Howard and Ross, but this portrait of the founder of our school shall by right have the post of honor.

"What associations are called up by the sight of this portrait to-day! Is it possible that Dr. Robertson, when he planted the seeds of our medical school seventy years ago, foresaw what was to be the result of such a small beginning; or is it possible that any one looking now at our prosperous medical faculty could predict, with any degree of probability, what may be in store for it in the seventy years that are to come? Most assuredly not; but, with the example of Dr. Robertson's energy and perseverance ever before us, with the encouragement that comes to us with difficulties successfully overcome, with the hearty good will of the community, and the material help which has been given to us with such unstinting hands, we should be unworthy of the trust that has been placed in us, did we fail to strain every nerve to place

our medical faculty, and the university of which it forms a part, in the very van of progress and prosperity."

Sir Donald Smith then spoke briefly. He paid a tribute to the memory of the late Mr. Peter Redpath, the late Sir Alexander Galt and the late Sir John Abbott, all of whom had died since the last convocation of the medical faculty, and then went on to fittingly refer to the retirement of Sir William Dawson from the principalship of the university. That was the sixty-first convocation, and he thought, looking back over what McGill had done in that period, they might feel that she had gone on progressing in giving year by year a better medical education. For many years McGill had had a reputation, not only in this country, but also in Europe, and they might confidently feel that the graduates who were going out from the university would do credit to their alma mater. In conclusion he cited Sir Andrew Clarke as an example to be followed, and said that if the graduates of the medical faculty followed, as he was sure they would desire to do, in the footsteps of such a man, they would be sure not only to reap the reward of wealth, but they would have what was infinitely better, the good will and approbation of their fellow men.

The proceedings were then closed with the benediction, pronounced by the Rev. Dr. Shaw.

Report on the Medical Faculty of McGill for the Session 1893-94.

The total number of students enregistered in the Medical Faculty during the past session was 350, of whom there were from :—

Quebec	135	Prince Edward Island	13
Ontario	108	North-West Territories	2
New Brunswick	32	Manitoba	6
Nova Scotia	28	West Indies	3
United States	19	British Columbia	4

The following gentlemen, 55 in number, have fulfilled all the requirements to entitle them to the degree of M.D., C.M, from the University. In addition to the primary subjects mentioned, they have passed a satisfactory examination, both written and oral, on the following subjects : Principles and Practice of Surgery, Theory and Practice of Medicine, Obstetrics and Diseases of Women and

Children, Pharmacology and Therapeutics, Medical Jurisprudence, Pathology and Hygiene,—and also Clinical Examinations in Medicine, Surgery, Obstetrics, Gynæcology and Ophthalmology, conducted at the bedside in the hospitals:

Bazin, A. T.	Montreal,
Byers, W. G. M.	Gananoque, Ont.
Colvin, A. R.	Lethbridge, N.W.
Davidson, A.	Burns, Ont,
Davis, R. E.	Fallowfield, Ont.
Drysdale, W. F.	Perth, Ont,
Estey, A. S.	Keswick Ridge, N.B.
Evans, J. W.	Hull, Que.
Ferguson, W.	Pictou, N.S.
Fowler, E. S.	Hudson, Wis.
Fry, F. M., B.A.	Montreal.
Fulton, J. A.	Franklin Centre, Que.
Gorrell, C. W. F.	Brockville.
Hamilton, G.	Bright, Ont.
Hanington, J. P.	Montreal.
Hart, E. C.	Baddeck, N.S.
Henderson, W.	Vars, Ont.
Hepworth, W. G.	Manitoba.
Holohan, P. A., B.A.	Newcastle, N.B.
Jacques, H. M.	Upper Dyke, N.S.
Kearns, J. F.	Metcalfe, Ont.
Kinghorn, H. McL., B.A.	Montreal.
Lambly, W. O.	Montreal.
Lewis, J. F.	Hillsboro', N.B.
MacCarthy, G. S.	Ottawa.
McCrea, J.	Detroit, Mich.
McLaren, J. T.	Bell Creek, P.E.I.
McLaughlin, J. A.	Avonmore, Ont.
McLean, C. M.	Cambridge, N.B.
McIntosh, L. Y.	Strathmore, Ont.
McKenzie, L. F.	Montreal.
Manchester, G. H.	Ottawa.
Mathewson, G. H., B.A.	Montreal.
Mitchell, W.	Lachute, Que.
Nicholls, A. G., M.A.	Montreal.
O'Connor, E. J.	Ottawa, Ont.
Ogden, C. L., B.A.	Warrensburg, N.Y.
Pritchard, J., B.A.	North Wakefield, Que.
Reeves, J.	Eganville, Ont.
Richardson, A.	South March, Ont.
Richardson, H. J.	Spencerville, Ont.
Rimer, F. E.	Bryson, Que.
Robertson, A. A., B.A.	Montreal.
Ross, D. W.	Peel, N.B.
Ross, H.	Thorburn, N.S.

Ross, J. J	Derwentville, Que.
Scammell, J. H	St. John, N.B.
Scott, W. H	Owen Sound, Ont.
Sharpe, E. M	Havelock, N. B.
Shaw, H. S	Montreal.
Shillington, A. T	Kemptville, Ont.
Stenning, W. A	Coaticook, Que.
Wilson, R. D	Derby, N.B.
Wolf, C. G. L., B.A	Winnipeg, Man.
York, H. E	Metcalfe, Ont.

The following gentlemen, 85 in number, have completed their PRIMARY EXAMINATIONS, which comprise the following subjects : Anatomy, Practical Anatomy, Chemistry, Practical Chemistry, Physiology, Practical Physiology, Histology and Botany :

Allen, J. H., B.A	West Osgoode, Ont.
Archibald, E. W., B.A	Montreal.
Ault, C. R	Tilsonburg, Ont.
Braithwaite, J. M. Mc	Barbadoes, W.I.
Brunelle, P	Lowell, Mass.
Church, H. M	Montreal.
Churchill, J. L	Lockport, N.S.
Colquhoun, P., B.A	Colquhoun, Ont.
Corbett, F. A., B.A	Parrsboro' N.S.
Craig, R. H	Montreal.
Deacon, G. R	Stratford, Ont.
Dewar, J. E	Glensandfield, Ont.
Ellis, G. H	Dundela, Ont.
Elliot, F. B	Mayfair, Ont.
Estey, A. S	Keswick Ridge, N.B.
Evans, J. W	Hull, Que.
Ewan, R. B	Montreal.
Ferguson, J. A	Easton Corners, Ont.
Findlay, C	Hamilton, Ont.
Fish, E. C., B.A	Newcastle, N.B.
Fisk, W. M	Abbotsford, Que.
Foss, A. F	Sherbrooke, Que.
Gallant, St. C. G	Charlottetown, P.E.I.
Goltman, A	Montreal.
Grant, A. J	Pembroke, Ont.
Grant, D	Pictou, N. S.
Hartin, G	Bells Corners, Ont.
Harwood, R. DeL	Vaudreuil, Que.
Hepworth, W. G	Winnipeg, Man.
Hogle, J. H	Montreal.
Howell, W. B	Montreal.
Irvine, A. D	Montreal.
Keith, H. W	Havelock, N.B.
Kelly, J. K	Almonte, Ont.
Kendrick, W. N	Spring Valley, Minn.

Lambly, W. O ..... Inverness, Que.
Launder, S. E. ..... Durham, Que.
Lauterman, M. ..... Montreal.
Lee, F. J. ..... Port Hope, Ont.
Lewis, J. T, ... Hillsboro', N.B.
Lynch, D. P. ..... Chapleau, Que.
McArthur, A. W ..... Williamstown, Ont.
McEwen, D. ..... St. Elmo, Ont.
McGannon, A. V ..... Brockville, Ont.
McNally, G. J. ..... Kingsclear, N. B.
McTaggart, D. D ..... Montreal.
Macartney, F. W. ..... Montreal.
Martin, R. H. ..... Chatham, Ont.
Mitchell, R. J. W., B. A. ..... Montreal.
Moffatt, W. A. ..... Ormstown, Que.
Moles, E. B. ..... Arnprior, Ont.
Morse, L. R., B. A. ..... Lawrencetown, N. S.
Mowatt, W. B. ..... Montreal.
Neil, R. W ..... Aylmer, Que.
Ogden, C. L., B. A ..... Warrensburg, N. Y.
Palmer, A. J. ..... Buckingham, Que.
Quay, D. D. ..... Port Hope, Ont.
Quirk, E. Mc. G. ..... Montreal.
Robins, G. D., B. A ..... Montreal.
Ross, R. O., B. A. ..... Margaree, N. S.
Ryan, J. P. ..... Portage la Prairie, Man.
Scammell, J. H. ..... St. John, N. B.
Secord, J. H. ..... Summerside, P. E. I.
Shaw, R. B. ..... Cove Head, P. E. I.
Shaw, H. M. ..... Berwick, N. S.
Smillie, W. ..... Huntingdon, Que.
Smith, R. E. G., B. A. ..... Woodstock, N. B.
Smyth, W. H., B. A. ..... Montreal.
Staples, C. A., B. A. ..... Stillwater, Minn.
Steeves, C. P., B. A. ..... Lower Coverdale, N. B
Sutherland, J. A. ..... River John, N. S.
Sterling, A. ..... Fredericton, N. B.
Tetreau, T. ..... Lawrence, Mass.
Thomson, F. L. ..... Mitchell, Ont.
Tupper, T. S. ..... Fredericton, N. B.
Vipond, C. W. ..... Montreal.
Walker, D. F. ..... Huntingdon, Que.
Warren, J. F. ..... Harper, Ont.
Watson, J. A., B. A. ..... Barbadoes, W. I.
Wheeler, F. H., B. A. ..... Florenceville, N. B.
White, R. B. ..... Pembroke, Ont.
Williams, J. A. ..... Carleton Place, Ont.
Wood, D. M. ..... Kenmore, Ont.
Wood, N. S. ..... Faribault, Que.
Wright, H. K. ..... Montreal.

HONOURS, MEDALS AND PRIZES.

THE HOLMES MEDAL is awarded to ANDREW ARMOUR ROBERTSON, B. A., of Montreal, Que.

THE FINAL PRIZE is awarded to ALBERT GEORGE NICHOLLS, M.A., of Montreal, Que.

THE PRIMARY PRIZE is awarded to WILLIAM NASSAU KENDRICK, of Spring Valley, Minn.

THE SUTHERLAND MEDAL is awarded to GEORGE DOUGALL ROBINS, B.A., of Montreal, Que.

THE CLEMESHA PRIZE is awarded to ALLAN DAVIDSON, of Burns, Ont.

PROFESSORS' AND DEMONSTRATORS' PRIZES.

THE BOTANY PRIZE is awarded to J. G. MCDOUGALL, of New Glasgow, N.S.

THE CLINICAL CHEMISTRY PRIZE is awarded to A. A. ROBERTSON, B.A., of Montreal.

THE OBSTETRICS PRIZE is awarded to L. Y. MCINTOSH, of Strathmore, Ont.

THE SENIOR ANATOMY PRIZE is awarded to R. O. ROSS, B.A., of Margaree, Ont.

THE JUNIOR ANATOMY PRIZE is awarded to C. B. KEENAN, of Ottawa, Ont.

FINAL YEAR.

The following gentlemen have obtained First Class Honours in the FINAL SUBJECTS:

1. Nicholls, A. G., M.A.
2. Robertson, A. A., B.A.
3. McIntosh, L. Y.
4. Fry, F. M., B.A.
5. Davidson, A.
6. Byers, W. G. M.
7. Bazin, A. T.
8. Pritchard, J. B.A.
9. Colvin, A. R.
10. Hart, E. C.
11. Shaw, H. S.
12. Mathewson, G.H., B.A.
13. Ross, D. W
14. Gorrell, C. W. F.

The following gentlemen have obtained First Class Honours in MEDICINE AND CLINICAL MEDICINE:

1. Robertson, A. A., B.A.
2. Nicholls, A. G., M.A.
3. Pritchard, J., B.A.
4. Byers, W. G. M.
5. McIntosh, L. Y.
6. Gorrell, C. W. F,
7. Ross, H.
8. Shaw, H. S.
9. Davidson, A.
10. Rimer, F. E.
11. Hart, E. C.
12. Drysdale, W. F.

The following gentlemen have obtained First Class Honours in SURGERY and CLINICAL SURGERY :

1. Nichols, A. G., M.A.
2. McIntosh, L. Y.
3. Bazin, A. T.
4. Colvin, A. R. / Fry, F. M., B.A.
7. Robertson, A. A., B.A. / Davidson, A.
8. Hart, E. C.
9. Shaw, H. S.
10. Ross, D. W.
11. Mathewson, G. H., B.A.
12. Hepworth, W. G.
13. Byers, W. G. M.
14. McLaren, J. T.
15. McCrea, J. J.
16. Fowler, E. S.

The following gentlemen have obtained First Class Honours in OBSTETRICS :

1. Robertson, A. A., B.A.
2. Gorrell, C. W.
3. McIntosh, L. Y. / Nicholls, A. G., M.A.
5. Davidson, A.
6. Bazin, A. T.
7. Richardson, H. J.
8. Kinghorn, H. McL., B.A.
9. Jacques, H. M. / Shaw, H. S.
11. Byers, W. G. M.
12. Ferguson, W.
13. Colvin, A. R. / Reeves, Jas. / Ross, H. / McCarthy, G. S.
17. Hart, E. C. / Henderson, W. / Pritchard, J., B.A.
20. Fry, F. M., B.A.

The following gentlemen have obtained First Class Honours in GYNÆCOLOGY.

1. Bazin, A. T.
2. McIntosh, L. Y.
3. Nicholls, A. G., M. A. / Robertson, A. A., B. A.
5. Byers, W. G. M. / Gorrell, C. W. F.
7. Jacques, H. M. / Try, F. M. / O'Connor, E. J.
10. Davidson, A. / Henderson, W. / Ross, H.
13. Hart, E. C. / Manchester, G. H. / Shaw, H. S.
16. Ross, D. W. / Evans, J. W.
18. Hepworth, W. G. / Kinghorn, H. McL., B.A.
20. Richardson, A.

The following gentlemen have obtained First Class Honours in OPTHALMOLOGY and OTOLOGY.

1. McIntosh, L. Y.
2. Nicholls, A. G., M.A. / Robertson, A. A., B.A.
4. Bazin, A. T. / Colvin, A. R.
6. Henderson, W.
7. Fowler, E. S. / Shaw, H. S.

The following gentlemen have obtained First Class Honours in PRACTICAL PATHOLOGY.

1. McIntosh, L. Y.
2. Nicholls, A. G., M.A.
2. Pritchard, J., B.A.
2. Robertson, A. A., B.A.
5. Fry, F. M., B.A.
5. Byers, W. G. M.
7. Davidson, A.
8. Fowler, E. S.
9. Wolf, C. G., B.A.
10. Bazin, A. T.
10. Mathewson, G. H., B.A.
12. Henderson, W.
13. Hart, E. C.
14. Evans, J. W.
15. Manchester, G. H.
16. Colvin, A. R.

THIRD YEAR.

The following gentlemen have obtained First Class Honours in PATHOLOGY:

1. Feader, W. A.
1. Le Rossignol, W., B.A.
1. Oliver, W., B.A.
4. Reilly, W. G.
5. Bouck, C. W.
5. Kerry, R. A.
7. Price, B. S.
7. Robertson, A. T.
9. Cruikshank, H.
10. Commins, E.
11. Wickham, W. W.

The following gentlemen have obtained First Class Honours in PHARMACOLOGY and THERAPEUTICS:

1. Feader, W. A
2. Le Rossignol, W. J., B.A.
2. Wright, H. K.
4. Wickham, W. W.
5. Bouck, C. W.
6. Kerry, R. A.
7. Blow, T. H.
8. Anthony, X. L.
8. Day, J. L., B.A.
10. Rielly, W. G.
11. Saunders, E. H.
12. Cruikshank, A.
13. King, J. H.

The following gentlemen have obtained First Class Honours in MEDICAL JURISPRUDENCE:

1. Wickham, W. W.
2. Hargrave, J. L., B.A.
3. Anthony, X. L.
4. Feader, W. A.
5. Le Rossignol, W. J., B.A.
6. Saunders, E. H.
7. Johnston, F. E. L.
8. Oliver, W., B.A.
9. Hamilton, R.
10. Anderson, D. P., B.A.
11. Neil, P. W.
12. Hogg, L., B.A.
13. Rielly, W. G.

SECOND YEAR.

The following gentlemen have obtained First Class Honours in the PRIMARY SUBJECTS;

1. Kendrick, W. N.
2. Robins, G. D., B.A.
3. Archibald, E. W., B.A.
4. Ross, R. O., B.A.
4. Smith, R. E. G., B.A.
6. Steeves, C. P., B.A.
7. Corbett, F. A., B.A.
8. Deacon, G. R.
9. Ellis, G. H.
10. Sicord, J. H.
11. Morse, L. R., B.A.
12. Moffatt, W. A.

The following gentlemen have obtained First Class Honours in PHYSIOLOGY:

1. Smith, R. E. G., B.A.
2. Archibald, E. W., B.A.
2. Robins, G. D., B.A.
3. Kendrick, W N.
4. Staples, C. A., B.A.
5. Warren, J. F.
6. Ross, R. O., B.A.
7. Kelly, J. K.
8. Corbett, F. A., B.A.
9. Morse, L. R,, B.A.
10. Secord, J. H.
11. Deacon, G. R.

The following gentlemen have obtained First Class Honours in CHEMISTRY:

1. Smith, R. E. G., B.A.
2. Kendrick, W. N.
3. Corbett, F. A., B.A.
3. Robins, G. D., B.A,
5. Archibald, E. W., B.A.
6. Deacon, G. R.
6. Morse, L. R., B.A.
8. Ellis, G. H.
9. Ross, R. O., B.A.
10. Sutherland, J. A.

The following gentlemen have obtained first class Honours in ANATOMY.

1. Ross, R. O., B.A.
2. Kendrick, W. N.
3. Archibald, E. W., B.A.
4. Robins, G. D., B.A.
5. Howell, W. B.
6. Ferguson, J, B.
6. Smillie, W.
6. Wheeler, F. H.
9. Macartney, F. W.
9. Smith, R, E. G., B.A.
9. Stevens, C. P., B.A.
12. Moffatt, W. A.
13. Kelly, J. K.
13. Thomson. F. L.
15. Corbett, F. A., B.A.
16. Deacon, G. R.
17. Ellis, G. H.
18. Argue, J. F.
19. Brathwaite J. M. Mc.

The following gentlemen have obtained First Class Honours in HISTOLOGY:

1. Archibald, E.W., B.A.
2. Kendrick, W. N.
3. Robins, G. D., B.A.
4. Howell, W. B.
5. McTaggart, D. D.
6. Ellis, G. H.
7. Brunnelle, P.
8. Braithwaite, J. M.
9. Ross, R. O., B.A..
10. Staples, C. A., B.A.
11. Fisk, W. M.
12. Fisk, E. C., B.A.
13. Bessey, M. W.
14. Churchill, J. L.
15. Deacon, G. R.
16. Steeves, C. P., B.A.
17. Shaw, R. B.

The following gentlemen have obtained First Class Honours in PRACTICAL CHEMISTY:

1. Ellis, G. H.
1. Secord, J. H.
3. Kendrick, W. N.
4. Fisk. W. M.
5. Seale, J. H.
6. McTaggart, D. D.
7. McEwen, D.
7. Smyth, W. H., B.A.
9. Robins, G. D., B.A.
10. Ferguson, J. B.
10. Kemp, H. G.
10. Tetreau, T.
13. Deacon, G. R.
13. McArthur, A. W.
15. Shaw, R. B.

16. Bessey, M. W.
Braithwaite, J. A.
Healy, D. J.
Macartney, F. W.
McLeay, K. L.
Morris, C. H.
Smillie, W.
Lee, J. F.

24. Brunelle, P.
Jack, A. C.
Thomson, F. L.

26. Warren, J. F.

28. Archibald, E. W., B.A.
MacAuley, J. F.
Ogilvy, C.
Ross, R. O., B.A.
Kirby, H. I.
Church, J. M.
Stanfield, H. M., B.A.

35 Flynn, J. W.
Wood, W. S.
McPherson, D.
Tupper, T. S.

39. Morse, L. R., B.A.

40. Mitchell, R. J. W., B.A.
Keith, H. W.

42. Lauder, S. E.
Dewar, J. E.
Prescott, A. H.
Trudeau, M. A.

FIRST YEAR.

The following gentlemen have obtained First Class Honours in BOTANY :

1. McDougall, J. G.
2. Allan, W.G.
3. Pennoyer, A. R.
4. Lennon, H., B.A.
Gourley, T. A.
5. Keenan, C. B.
6. Tozer, F. W.
Wyman, D. C.
7. Gladman, E. A.
8. McCallum, E. C. D.
McRae, J. D.
9. Laidley, J. H.
10. Eberts, E. M.
McKinnon, F. W.
Wainwright, S. F. A.
11. Rogers, F. E.
12. Doyle, J. J.
Hudson, H. P.
Lockary, J. L.
13. Johnston, W.
14. Foster, G. M.
Trainor, J. B.
15. Laing, A. A. J.
16. Robertson, D. M.
17. Hurdman, H. H.

THE FUNCTIONS OF THE CEREBRAL CORTEX.

To a recent number of the *Journal of Physiology*, Dr. Mott contributes a valuable paper upon the functions of the central convolutions of the cerebral cortex,* and prefaces his own observations and conclusions by a brief but lucid epitome of the views of previous workers. Those views are notoriously widely divergent, or have been so in the past. They range from the opinion of Schiff that the so-called motor-areas are purely tactile sensory (movements upon irritation of these areas being of the nature of simple reflexes, and the paralysis following upon their destruction being due to the loss of tactile sensibility), to that of the English school of a few years ago, of Farrier, of Horsley and of Schäfer, that the central region of the cerebral cortex is purely motor. Between these two absolutely opposed views, there are divers intermediary. These may be grouped conveniently into two or three categories..

Goltz, still working on the dog, holds firm to his opinion that the cerebral hemispheres have no active function in initiating muscular activity, and brings forward evidence† showing that in a dog eighteen months after removal of all the cortex, there still is present—or there has been developed anew—muscle sense, the animal resisting alterations in position and not permitting one of its limbs to sink through a trap door. It cannot, however be denied by Goltz that these experiments on the dog do not hold for the monkey, nor again, as clinical experience teaches us, for man.

Hitzig and Bastian may be said to hold that the motor areas are at the same time the seat of motor ideation and muscle sense. Munk goes further and localises not only muscle sense, but also tactile sense in the cortex of the parietal lobe. Tripier, Mœlli and Bechterew working independently, arrive at a somewhat similar conclusion. Tripier finds that the sensory area for a definite limb coincides with, but is more extensive than the

* The sensory motor functions of the central convolutions of the cerebral cortex, by F. W. Mott, M.D., F.R.C.P., Lecturer on Physiology in the Charing Cross Hospital Medical School. Journal of Physiology, vol. xv., No. 6, p. 464, 1894.

† Pluger's Archiv., xx., 1892.

motor area for the same limb, while Bechterew concludes from his experiments, that there are independent motor and sensory centres lying very near to each other and often overlapping to a certain extent. And now Horsley has reversed his previous declarations, and admits fully that in consideration of clinical and experimental studies, the Rolandic area must be considered sensori-motor, impressions of touch and common sensibility being there registered. Schäfer, too, now admits, with Gowers and Hughlings Jackson, that the region cannot be regarded as purely motor.

Thus it is that the majority of workers are coming round to the opinion that the so-called motor area of the cortex is truly sensori-motor.

It is interesting to review the clinical observations in proof of this contention. As Dr. Mott points out, cases of sensory disturbance accompanying motor paralysis from cortical lesions (and Dana has brought together 142 such cases) while affording strong presumptive evidence, are not conclusive. The reliable evidence must be obtained from surgeons who have removed portions of the brain, their cases being carefully tested before and after operation. Allen Starr as the result of thirty cases of cerebral operation is fully convinced of the existence of centres for the reception of tactile sensation in the motor area of the cortex, especially behind the fissure of Rolando, where also he places the motor centres for the organs of most delicate action—the hands and feet. Horsley has had five cases in which large portions of the brain in the Rolandic area have been removed and operation has been followed by sensory defects. Albertoni and Brigatti report a case of removal of a tumour plus brain tissue, the size of a hen's egg, from the motor area of a young girl thirteen months previously. All the epileptic seizures had ceased, and the paralysis in the lower limb had diminished, but tactile, general, thermal and painful sensations which before the operation were unimpaired, have, since the operation been affected over the whole left half of the body except the face.

There are yet other facts in support of this view. Take for instance the history given in Jacksonian epilepsy, in epilepsy,

that is, due to some irritative lesion in the motor area, where as a result of the irritation a sensory aura precedes the motor spasm. Again Ransom and Dana's independent studies of the results of faradising the human cerebral cortex when the patient was not under an anæsthetic, are fully in harmony with the above clinical observations. Both observers found that the immediate effect was a tingling sensation in the part, which would then contract. They proved clearly that stimulation of the human motor area leads to both motor and sensory disturbances, the sensory, like the motor being controlateral.

Dr. Mott gives in detail the results of removal of relatively large portions of the motor area in seven monkeys. Interesting as are his methods and observations there is not space to say more here than that his very careful and conscientious tests support fully the general conclusions upon which weight has here been laid. He found, that is to say, that removal of one or other part of the motor area led to a corresponding blunting of sensibility of the part whose motion was controlled from that area.

To sum up, it would seem to be fairly well ascertained and to be gaining a general acceptance among neurologists that the Rolandic or "motor" area is in reality sensori-motor; that it is sensory, not merely, as Hitzig would have it, as registering muscle sense, but rather, as Munk holds, as registering also tactile and thermal sense; that to obtain sensory disturbances it would seem necessary that relatively large areas of brain substance in the motor area should be destroyed or removed. This may possibly explain why it is that all operations upon this region do not lead to anæsthesias and other sensory troubles, and why motor paralysis is greatly in excess of sensory disturbance in many clinical cases.

But while believing that an important step forward has been made in the more general acceptance of a belief in the combined functions of the "motor" cortex it must still be kept in mind that we are as far as ever from knowing how the cortex controls or determines motion and sensation. Are there actually different centres governing the two, or does paralysis "occur as the result,

of inability to revive the sensory images incidental to movement"? Does paralysis ensue, because through destruction of the cortical cells which register sensation, no stimulus passes to the cells determining motion (wherever these be situated) and as a consequence these cells remain inactive, or is it that the cortical cells are at one and the same time sensory and motor, receiving sensory stimuli and inducing motion in response? These are questions which cannot as yet be answered and which are more truly psychological than medical. Nevertheless they are questions of very considerable import for all those who study the actions of the brain, alike in disease and in health.

HOSPITALS FOR CONTAGIOUS DISEASES.

The question as to who should take charge of patients suffering from the diseases, diphtheria, scarlatina and measles, has at last been settled by the City Council making the following arrangements.

The civic hospital on Moreau street has been given over to the authorities of Notre Dame Hospital, and they are to receive all Roman Catholic patients suffering from these diseases. The Protestant patients are to be cared for by the Montreal General Hospital, and for that purpose they have fitted up two houses directly opposite to the Hospital. The expense of fitting up the two fever hospitals is borne by the city, and they are to be maintained by a pro rata allowance.

This solution of the difficulty is a most satisfactory one, and it is owing to the efforts of the new chairman of the Health Committee, Ald. Beausoleil, that it has been carried through and that with a rapidity and completeness that would take away the breath of the old committee. A great many obstacles were put in the way of accomplishing the design, but they have all been overcome, and we trust that the arrangement will be permanent. To Ald. Beausoleil the thanks of the whole community are due for the prompt and efficient manner in which he has arranged what had hitherto proved too knotty a point for the Council to grapple with, and we congratulate the city on having such a chairman of its Health Committee.

Obituary.

Death of Dr. Dorion.—Dr. Dorion, one of the oldest practitioners of L'Assomption, is dead. He graduated in 1833, after studying under the late Dr. Munro. Dr. Dorion's first practice was given up to the Irish victims of cholera at Point St. Charles. The deceased was twice married, and was the father of a numerous family.

Medical Items.

—We are pleased to note that Dr. Montizambert has been appointed superintendent of Dominion Quarantines. Dr. Montizambert has been for many years in charge of the quarantine on the lower St. Lawrence and is consequently well qualified for his present position.

—There may not be so much in therapeutics as some people believe, but there is a great deal in knowing what is the matter. These men that are so devoted to drugs sometimes do not know what is the matter, but they fire a mitrailleuse in a very extraordinary prescription, hoping that there is something in the mixture that will kill something in the body they are attacking. From such medication let us be delivered! Diagnosis, diagnosis, always diagnosis.—*The Post-Graduate.*

—Several sudden deaths have occurred lately in public conveyances in Paris. Investigation showed that these vehicles were heated by *briquettes* which are composed of equal parts of wood, charcoal and dextrin with 2 per cent. nitrate of soda added to the combination. These burn very slowly and disengage considerable quantities of carbon monoxide as well as carbon dioxide, the former of which is an active poison and undoubtedly was the cause of death.

Cobra Poisoning in Mother's Milk.—A Mahommedan beggar woman and her child (aged about one year) recently died in Madras. It would appear, says the *Times* of India,

that the deceased woman was bitten by a cobra, and while in that state she nursed the child, which also died from the effects of the poison. With reference to this statement, Sir J. Fayrer says: "I think it quite probable. I long ago showed that the blood of an animal poisoned by cobra virus is itself poisonous when placed in the stomach. Nothing more probable than that the milk of a woman so poisoned should be poisonous to the infant, but is it quite sure that the infant did not die of some other cause?"—*British Medical Journal.*

The Medical Profession in Germany.—According to official statistics recently published the total number of medical practitioners in the German Empire is now 21,621, being an increase of 5.46 per cent. as compared with the previous year, and 22.5 per cent. as compared with five years ago. The practitioners are distributed as follows: Prussia, 12,851; Bavaria, 2,431; Saxony, 1,563; Baden, 855; Wurtemberg, 739; Alsace-Lorraine, 632; Hamburg, 429; other provinces less than 200. The proportion of doctors to population in the whole empire is 4.37 per 10,000; the ratio in 1892 was 4.15.

Vegetarianism and Cruel Temperaments.—There has been much written on the mildness of temper possessed by vegetarians. The Hindoo professional assassin or murderer is probably as cold-blooded and as ferocious a being as one may imagine. The Chinese are great vegetarians. Rice, beans in the green state, cabbage and large spinach, water-cresses and fruits enter largely into their diet. They are besides very fond of fish, and yet there is nothing more bloodthirsty and bellicose, more wild or more unmanageable than the Chinaman when aroused. On the other hand, the native Californians, like the native or dweller of the wild pampas of South America, who lived on an exclusive beef diet, were generous, self-composed, and not in the least given to either strife or bloodshed.—*National Popular Review, January.*

—*The Medical Register* for Great Britain and Ireland has just been issued at a rather earlier date than usual. It contains 1,054 more names than last year. The actual number of new

names is 1,579, and of this number 770 were registered in England, 638 in Scotland, and 171 in Ireland. The loss by death was 546, as compared with 558 in the previous year. The growth of the profession as evidenced by the increase in the bulk of the *Register* is portentous. The increase has been nearly 50 per cent. since 1876. In that year there were 22,200 registered practitioners; the *Register* for this year contains 31,644 persons, an increase of 9,444 in eighteen years. A marked and comparatively novel feature in the *Register* is the number of licensing bodies in the Colonies and India which have been recognized by the General Medical Council as granting qualifications entitling to registration in the Colonial List. The bodies thus newly recognised are the Universities of Adelaide, Calcutta, Madras, and the Punjab, and the Ceylon Medical Congress.

—The subject of male nurses has recently been commented upon by Dr. Charles H. Stowell in *Food*. We have for a long time been of the opinion that the male nurse had very small place in the care of the sick. This is certainly true outside of the insane hospitals or prisons, or in a few exceptional cases where mere muscular power is needed. In private homes, certainly, the male nurse is rarely required. In these days of trained nurses there is no comparison between the male and the female nurse as regards usefulness in the sick room.

There are many diseases, for example, typhoid fever, where nursing has a larger place than medicine, and to-day no reputable physician would conduct such a case without obtaining the services of a trustworthy trained nurse to carry out his instructions and to do the thousand and one things so needful to establish convalescence, that only her thoughtful brain and delicate hand are capable of accomplishing. We believe there has been no stronger evidence of progress in medical science in the last fifteen or twenty years than in the training of nurses and in their extensive employment in the sick-room.

A Law Clinic.—In a lecture upon the ethics of the medical profession, Dr. S. Weir Mitchell said :—" Who ever heard of a law hospital ?" This taunt put some lawyers to work

upon the subject, and now the law students of the University of Pennsylvania have established a regular law dispensary, with semi-monthly clinics, where poor clients can have their cases taken charge of and carried through the necessary courts. Of course, the client or his friends must pay the court costs.—*Medical World.*

This is a brand new thought, and one that may be taken up by the legal profession as worthy of their consideration. While it is no doubt true that any meritorious case will easily find a defender in the legal profession, there are many among the poor who should have given them legal advice in regard to legitimate rights which they should enjoy, but in regard to which they have very indefinite ideas and notions, and are always in danger of getting into the hands of conscienceless shysters. It is true that in some instances members of the medical profession are wronged out of some paying patronage through the operations of the hospitals and clinics. We are quite sure that at the same time the profession at large is, through this avenue and means, relieved of a very considerable burden of labour it would be forced to bear under other conditions. In the establishment of a law department of the Cincinnati University, a law clinic may with all propriety be made a most interesting and useful adjunct, and be worth to the students even more than a moot court.—*Cincinnati Lancet-Clinic.*

—Henry W. Cottell, in the *Medical and Surgical Reporter*, gives the following practical post-mortem points :—

Get all the anatomical knowledge you can out of every autopsy you make. It is therefore usually advisable, especially in the case of females, to perform a preliminary laparotomy. Many surgical operations can be practised upon the body without disfigurement, such as Alexander's operation, oöphorectomy, removal of the ear ossicles and vermiform appendix, stretching of the sciatic nerve, symphysiotomy, etc.

Be sure you have a legal right to make the post-mortem before you begin. The nearest relative, or the one who is going to pay the expenses of the funeral, should give the consent in writing.

Tact will get you many autopsies. Curiosity of relatives and friends can often be worked upon to get permission for an autopsy.

In legal cases be sure to protect yourself in every possible way. The jars (which should never have been used) containing the specimens should be sealed in the presence of a witness. In important cases here in Philadelphia the coroner has both of his physicians present at the autopsy, so that the testimony is stronger, and in case of absence of one of the physicians the other can go on the witness stand and the case not be postponed.

If you value your peace of mind, do not put yourself forward as an expert witness in medico-legal matters. Knowledge which you already have should be freely given to the court in criminal cases, but the court can not compel you to obtain expert knowledge without your consent.

In Germany the legal evidence of a post-mortem held by gas-light has been judged by the court, except under certain pecular circumstances, to be void.

If two persons are lifting the body, the lightest weight is at the feet.

Chloroform, when placed on a towel and the head enveloped in the towel, will quickly dispose of *pediculi capitis*.

Many signs of inflammation, especially of the mucous membrane, disappear after death. Remember that red flannel often colours the skin red.

Wash your hands freely during an autopsy, so as not to allow the blood to dry on the skin.

Urine or aromatic spirits of ammonia will best take off the odour from your hands. The odour is usually got from opening the intestines.

Remember that a post-mortem, with the exception of brain and cord, can be made with a penknife.

Sanitation as Taught by the Mosaic Law.—Dr. Adler, in a paper read before the Church of England Sanitary Association, on November 1st, 1893, explained how various Jewish customs, directly derived from the Pentateuch, exercise an important sanitary influence on the community; and pointed

out that prevention was substituted for the old curative system in dealing with disease. He applied the old principles adopted by the Jews in the treatment of leprosy to specific diseases such as variola, scarlet fever, and typhus, and insisted that if they were as rigourously carried out, these diseases would disappear or become very rare. In dealing with house sanitation, the Chief Rabbi recommended the destruction of rotten tenements as one means of preventing the spread of disease, a recommendation which is strongly supported by recent investigations with regard to tuberculous infection from the walls of rooms formerly occupied by phthisical patients. In view of the advances that have been made of late with regard to food sanitation, one of the most important parts of the paper was that which dealt with the dietary laws. It was observed that the animals pronounced unclean among quadrupeds were those particularly liable to parasites, and among birds, the scavengers of garbage and carrion. The whole question of Shechita was dwelt on at considerable length, and the advantage of obtaining the flesh as free from blood as possible was held to be a sanitary basis for the custom. The fact that micro organisms of disease are often present in the blood, while the tissues of the organs through which the infected blood circulates are free from them, was, with reason, made a strong point in favor of the Jewish method of slaughter. We are, however, obliged to take exception to the suggestion that apart from disease possibly some of the qualities of the animal may be communicated to us by means of its blood. Attention was called to the great care with which the carcases of the animals are searched for signs of disease and the recommendation that the same care should be taken in all slaughterhouses is one which we cannot too strongly support. If, as is probable, the Jewish race owes its immunity from the tuberculous diathesis of phthsis to this measure, this fact alone is an overwhelming argument in favor of the custom. Happily the results of recent researches have left little doubt in the minds of those most competent to judge that many diseases common to the lower animals and man are capable of propagation by means of infected meat, and the importance of

the careful inspection of meat before it is allowed for human consumption is becoming more and more recognized. If Dr. Adler's able and comprehensive paper succeeds in giving further impetus to this point in sanitation alone among the many he has discussed, the community at large will have every reason to be grateful to him.—*British Med. Journal.*

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Original Communications.

A SERIES OF CASES OF STREPTOCOCCUS INFECTION.

BY JAMES BELL, M.D.,

Surgeon to the Royal Victoria Hospital; Assistant Professor of Surgery and Clinical Surgery McGill University.

I beg to submit the following very brief history of a series of cases of streptococcus infection which have recently come under my observation. The first case of the series was Mrs. H. Neill, aged 34, who was admitted to the Royal Victoria Hospital at 6 o'clock p.m. on the 8th of January, 1893, in a condition of great dyspnœa and partial stupor. There was a family history of tuberculosis. The patient had been confined on the first of January, being attended by a midwife. On the 4th of January she had a violent chill with suppression of the lochia, and on the fifth, cough and pain in the right side set in. On the 6th, she was first seen by a physician, who found evidences of acute peritonitis and pleurisy. On admission to the hospital on the 8th, she was found to be in a very desperate condition. Temp. 104°F. Pulse 140, weak and thready. Respiration 52. There was present dyspnœa with cyanosis and suppressed cough. Examination of the chest showed dulness with enfeebled breathing at both bases, but more marked on the right side. Dulness was also found in front on both sides. The abdomen was much distended and tender, especially over the hypogastrium, and the skin was covered with red erythematous rash.

During the night the patient continued to grow worse, diarrhœa set in with greenish and very offensive stools. Respiration became more difficult and laboured and cyanosis increased. Delirium was followed by coma, and death occurred at 10 o'clock a.m., on the 9th, 16 hours after admission. At the autopsy, which was held at 1 o'clock p.m. on the 10th of January, 27 hours after death, considerable effusion of blood stained serum was found in both pleuræ. The lungs were congested and œdematous, but there was no pneumonia. There was some fluid in the pericardium and recent lymph on the valves of the heart. The peritoneum, more especially in the neighbourhood of the uterus, was covered with a thick, almost purulent lymph. The intestines were matted together. The uterus was enlarged and its substance softened. On the inner surface at the placental site was a small patch of broken down tissue—probably a portion of the placenta. There was no thrombosis noted anywhere.

(I am indebted to Dr. W. A. Brown, Senior House Physician of the Royal Victoria Hospital for the above facts.)

Cultures of the peritoneal fluid made by Dr. Adami showed abundance of streptococci.

Dr. F. R. England, who saw this patient at her home, informs me that there was no infectious disease in the house at the time of confinement, but that scarlatina was very prevalent in the immediate neighbourhood.

The second case in the series was that of Dr. J. W. Scane, Senior House Surgeon, Royal Victoria Hospital, who has written to me the following account of his illness :—" I attended the autopsy on Wednesday, Jan. 10th, as a spectator only. After remaining in the room a short time, I left to get measuring glasses for Dr. Adami, and on my return I jammed my right index finger in the door, knocking off a small portion of skin at the root of the nail. I did not touch anything in the room—on the contrary, knowing the case to be septic, I at once put my hands in my pockets and left the room. I was quite well till next morning (Thursday), when I had a severe attack of diarrhœa. I felt miserable all day with headache and general soreness all through my body. About four o'clock p.m., Dr.

Brown took my temperature. It was then 99.6°F. At 8 o'clock Dr. Weeks took it, and it was then 101.8°F. Next day (Friday), in the morning, I first felt soreness in the right axilla and on examination found the glands considerably enlarged and tender. I also felt soreness about the jaw, the ascending rami being quite tender to the touch. There was no indication of any trouble about the finger wound at all. It healed as an ordinary abrasion would, and there was no redness of the skin of the arm. All went well till Saturday night, when I experienced a very severe pain over the region of the heart, extending also down the left arm. This was accompanied by a feeling of constriction about the throat, making breathing difficult. These symptoms were relieved in about half an hour by hot applications and morphia hypodermically. Next morning (Sunday) I felt much better in every way. The swelling in the glands had almost disappeared and the tenderness was very slight. I got up on Sunday evening and have been quite well since. My temperature never exceeded 101.8°F. I had no definite chill and no other glands were enlarged except those of the right axilla.

This illness of Dr. Scane's is perhaps susceptible of some other interpretation, and at best the evidence of its having been due to streptococcus infection is very incomplete. Some of the symptoms, indeed, suggest rather a mild attack of tetanus, but the rapidity and completeness with which they disappeared, as well as the shortness of the incubative stage, render this theory untenable. On the other hand, the incidence of the symptoms within twenty-four hours of the injury, and the enlargement of the glands in the axilla, together with the character of the symptoms themselves, leave no doubt as to the illness having originated in septic infection of some sort, and as this was the very first autopsy ever performed in the building, it is only possible to attribute the infection to this case.

The third case is that of Mr. Fred. Carron, a student, who assisted at the autopsy in the Royal Victoria Hospital. During the autopsy he pricked the palmar surface of his left index finger with a scalpel. In the course of the evening the finger became painful, and at night it prevented him from sleeping.

During the night he got up and pricked it with a needle, thinking that something had got into the wound. In the morning he called upon Dr. Roddick, who made a deep incision through the site of the wound. There was no pus and no redness of the arm, although the axillary glands were slightly enlarged and tender. The following day, Jan'y. 12th, he went to the General Hospital. His temperature was then 102.6°F at noon, but gradually fell until at 8 o'clock p.m. it was only 99°F. During the next five days the temperature remained normal, and the wound in the finger completely healed. He complained, however, of some pain in the axilla, and on the 15th of some sore throat. On the night of the 18th he complained of more pain in the axilla, and in the early morning (19th) he had a chill and at night a slight epistaxis. The temperature rose on the 19th to 101.2°F., and the next nine days it ranged from 101 to 103.6°F., the pulse range being between 90° and 100°F. During this time I saw him daily with Dr. Roddick. We examined him carefully every day, but found no indications for operative interference. On the 20th the axilla was swollen and tender. On the 21st the swelling had diminished in the axilla and was greater just below the clavicle and under the pectoral muscle. On the 22nd the swelling and tenderness had greatly diminished again in this region, and the most painful spot, which was also swollen, was just at the inner edge of the deltoid muscle. There were now some spots of redness on the arm. On the 23rd a red patch, as large as the palm of the hand, appeared in the pectoral region. This was painful and tender. These areas of redness were at this time attributed to the hot poultices. On the 25th we decided to explore the axilla. This was done under ether by an incision in the centre of the axillary space through skin and fascia. Another incision was made at the edge of the deltoid directly down to the bone, and a third along the outer edge of the scapula. Nothing was revealed by these incisions. Next day other areas of redness (dermatitis) had appeared over the forearm and back, and a diagnosis of erysipelas was finally made. On the 26th Dr. Adami collected some serum and blood from some of the newer

areas of erysipelas for examination, but with a negative result. From this time he began to improve and is now convalescent.

The fourth case is that of a man named Michael Smith, aged 44, on whom I operated in the hospital for inveterate club foot, one hour after having operated upon Carron, the patient being on the same table and in the same operating room, and my assistant being the same House Surgeon as in Carron's operation. The table, a wooden one, covered with rubber, had been scrubbed as usual after operation, and my assistant and myself had taken the routine precautions to cleanse our hands. The operation consisted in the removal of the astragalus, scaphoid, cuboid and portions of the two inner cuneiforms and the head of the os calcis, as well as the overlying bursa which had been in a suppurating condition with sinuses for seven years. The operation was long and tedious and required much manipulation. The patient was as comfortable as could be expected for the next three days. On the 29th, as he was complaining of pain, the dressing was changed. There was some redness and swelling of the skin of the foot which I then thought was possibly due to the rough manipulation during the operation. For the next four days the patient was not so well. He complained of much pain and his temperature ran up to 102°F. at night. On the second of February the dressing was again changed, when the whole foot and leg were found to be red, swollen and vesicated—an undoubted erysipelas. Then for the first time the connection of this with the previous case (Carron's) was brought home to my mind. On the 5th instant, the dressing was again changed in order to enable Dr. Adami to collect some serum for examination. The inflammatory process had, however, so definitely subsided that nothing was done, except to collect from a vesicle which had remained unbroken. The serum thus collected has yielded a negative result. No suppuration whatever occurred about the wound, and the patient is progressing most satisfactorily. It is, of course, much to be regretted that the conditions were not recognized earlier in the third and fourth cases in order that bacteriological investigation might have been systematically and successfully carried out, and the presence or

absence of the streptococcus definitely determined. Clinically, however, the picture is a very suggestive one, and reaffirms the absolute necessity for the complete sterilization of the operating table, the surgeon's hands and of everything that may come in contact with the operation wound. Scarcely less important, perhaps, is the demonstration that the inoculation of the streptococcus produced erysipelas, in one case remotely through the lymphatics, and in the other case directly, but in neither suppuration.

CASE OF MULTIPLE ABSCESS OF THE BRAIN ASSOCIATED WITH PULMONARY DISEASE.*

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AND
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T. W., aet. 61 years, by occupation a painter, became ill upon February 23rd, suffering from a severe cold, which made him take to his bed. He left his bed the next day but was forced to return, the cold having increased in severity, there being a pronounced cough with expectoration and frontal headache. This was followed by pain in the chest, high fever and the expectoration of blood-stained sputum. When he was admitted into the General Hospital upon March 9th, these symptoms had disappeared, and nothing was to be detected in the chest save a few crepitant râles at the base. There was, however, great feebleness, with obstinate constipation. The right pupil was larger than the left, without there being any disease of the fundus. There was no evidence of renal disease. The patient became gradually comatose with coma vigil. The pulse continued unaltered at 84, the respirations were 28 per minute, only increasing at the last moment, the temperature was 100°. The patient died six days after admission.

At the autopsy performed fifteen hours after death, the trachea was found greatly congested with thin blood-stained mucus covering its surface. The bronchi were reddened and affected with bronchitis, the upper lobes of both lung were œdematous, the lower lobes of both lungs were heavy to the feel and fairly firm, they were greatly congested but at the same time crepitant. At the root of the right lung was a suppurating bronchial gland.

In the heart the one point deserving notice was the condition of the coronary arteries; these, while not definitely atheromatous, were greatly dilated, their walls having undergone fibroid thickening. There were small patches of fatty change in the first part of the aorta, with more distinct atheroma in the lower dorsal and abdominal aorta.

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* Read before the Montreal Medico-Chirurgical Society, April 6th, 1894.

In the alimentary tract the only markedly abnormal condition was the presence of a suppurative tonsillitis. The liver was somewhat fatty, the pancreas firm and fibroid, with dilated and tortuous artery, the spleen small and fibroid with wrinkled capsule, the kidneys large and long with diminished antero-posterior diameter, distended arteries, finely granular surface, lessened cortex, and with a small cyst upon the surface of the right organ. Beyond these conditions, nothing noticeable was observed. Save for the suppurative tonsillitis and the state of the lungs, the condition of the organs was what is expected to be found associated with the arterio-sclerosis of advancing age.

Coming now to the brain it was noticed that upon removal of a skull cap of abnormal thickness, the left hemisphere seemed to bulge more than the right, and the convolutions were more flattened. Upon removal of the organ the vessels at the base were found markedly atheromatous, even to the end of the fissure of Sylvius. Around the roots of the anterior cranial nerves there was a purulent meningitis extending in front to the olfactory bulbs, behind it reached as far back as the line joining the points of egress of the 5th nerves.

Upon opening the lateral ventricle of the left side, it was found to contain a large quantity of fairly clear or semi-transparent greenish muco-pus; in the region of the posterior cornu this extended for several centimetres outwards into the white matter of the brain, forming a channel with smooth walls; this did not extend into the grey matter. The choroid plexus was thickened and œdematous. In the substance of the left hemisphere, opposite to the junction of the temporal and parietal lobes there was a large cavity in the white matter, containing pus of a like clear mucoid greenish character. Its walls were of reddish-blue colour and were necrotic. The right ventricle contained a large cast of whitish green pus extending over the whole of the mid-region of the ventricle. In the white substance opposite to the ascending frontal convolutions, and upon the level of the junction of the upper and middle frontal lobes was another abscess the size of a hazel nut; this extended quite superficially into the gray matter, less than 1 cm. of wall remaining. It contained similar greenish contents, and had walls undergoing necrosis. There

was further a small abscess containing but a few drops of pus in the posterior portion of the right optic thalamus. The pus present in the left ventricle extended down into the third and fourth ventricles. On cutting into the cerebellum the left lobe was found normal; the right lateral lobe was the seat of another abscess, with well-defined walls, filled with necrotic material, associated with the same pale greenish pus; this was 5 cm. in the greatest diameter and about 3 cm. wide, being of oval shape. The pons and medulla were normal.

A few encapsuled diploccoci were found in the greenish pus of the cerebral abscesses.

We have recorded this case mainly because of its bearing upon the relationship between lung disease and cerebral abscess. That such relationship frequently exists has long been recognized. Only last year one of us (F.) had a case under observation, presenting many points of similiarity with the present, and while we were engaged upon studying the material obtained from this case, our mutual friend, Dr. Williamson, of Manchester, published a short article in the *Medical Chronicle*, bringing together the observations of several observers upon this very subject. Hence it is not inappropriate to call attention here to this case.

Williamson's epitome of the literature of the subject shows that more frequently cerebral abscess develops as an accompaniment of chronic lung trouble, rather than as a sequela of acute. More especially it is in cases of chronic bronchitis and bronchiectasis that the relationship is found. There are, however, several cases in which the abscess formation has followed upon acute pneumonia. In the case mentioned by us the exact conditions which had led to the abscess formation cannot be stated with absolute certainty, although it is safe to infer from the history given that the patient had suffered from croupous pneumonia, and, from the condition of the lung both macro- and microscopically, that this disease had affected the lower lobes on either side. The presence of lanceolate diplococci in the characteristic greenish pus may be urged with some force in favour of this contention. On admission into hospital the condition was one of advanced resolution of the disease, the only active disturbance found at the autopsy

being the suppurating gland at the root of the right lung. The presence of this condition of the gland is in itself suggestive of a tendency on the part of the inflammation that had affected the lungs to travel beyond those organs.

It is difficult to offer a satisfactory explanation, or one that will embrace all cases why there should exist this liability for cerebral abscesses to be associated with disease of the lungs more frequently than, for instance, renal abscesses are found to be thus associated. In our case, it is true, there was extensive atheroma of the cerebral vessels, and the diseased condition of the arteries may have been a predisposing cause; such atheroma, however, is not constantly present.

PHYSIOTHERAPY FIRST.

Nature's Medicaments Before Drug Remedies: Particularly Relating to Hydrotherapy.*

By Edward Playter, M.D., Ottawa.

All through the records of the history of medicine, from early Assyrian and Egyptian times down as we find to modern uncivilized tribes, we have clear evidence that in the first or early steps in the science of medicine, the practice of the art consisted for the most part in the employment of magical incantations, the laying on of hands, &c., and was apparently somewhat of the nature of modern hypnotism, acting through the mind, as if the chief reliance in the healing of disease was upon the natural living forces within the body. We are here reminded of the old saying that "God made man upright, but he hath sought out many inventions." Although Æsculapius in his practice, we are told, enjoined first of all a hygienic regimen, attention to the diet, strict temperance and absolute cleanliness by frequent ablutions, and although the temples that were afterwards erected in his honour were built in the healthiest localities, and the patients in them treated upon like hygienic principles, including rest and pleasing impressions, yet, so far as we know, it was Hippoctrates who, practising in a similar way, first drew special attention to the inherent natural curative force within the body, applying to it the term phusis (φυσις) nature, the "vis medicatrix naturæ" of later Roman writers, while he also recognized subordinate forces, which he termed dunamies (δυναμεις), relating more particularly to the various organs of the body. Moreover, in practice this father of medicine allowed these forces to pursue unmolested and uninterrupted their benign course; and he was in practice it appears remarkably successful. Coming down through the obscurity of the dark ages to two or three centuries ago, we find the discerning Van Helmont advancing the theory of a more specific healing force or power within the body, different from that belonging to inanimate matter—a sentient principle seemingly distinct from the cor-

* Read at the Semi-annual meeting of the Rideau and Bathurst Medical Association, January 31st, 1894.

poreal frame, and which he personified as the " Archæus," or " Grand Regulator," whose throne was the stomach ; Wepfer designating a like power as the " President of the nervous system ;" and the bold Stahl attributing such an influence " Directly and entirely to the rational soul, diffused over the whole body." And while we still continue to pour in drug remedies as our sheet anchor in the treatment of disease, and the schools especially waive before us, perhaps not now so much as they did a few years ago, the endless and ever increasing drug formulæ of the pharmacopœia as the alpha and omega of resource in therapeutics, leaving us to find out for ourselves in practice, through years of most bitter, most destructive experience, the unreliability and danger of most drug remedies, a Metchnikoff now rises up and displays before our wondering eyes, as it were, the vis medicatrix naturæ actually personified, certain living cells in actual combat with disease germs ; while other investigators teach us that there is generated in the body and found in the blood serum, a germicide more powerful than corrosive sublimate.

It is not my intention to make a tirade against drug remedies. Some of them are of undoubted value as subordinate remedies ; although as Prof. Erb, of Heidelberg, says, of " chemical or internal remedies" :—" Here we enter upon a very obscure field, which needs thorough cultivation. We know almost nothing of it ; the little which therapeutic experience has taught us is neither securely established nor in any way scientifically or intelligibly founded." But I would like to deliver a vigorous tirade against the practice of the text-book makers and of the schools giving these remedies first place, usually, instead of the last, in the materia medica.

Many years ago I suggested, at more than one meeting of the Canadian Medical Association, that the profession in Canada take the initiative and appoint a committee with the view of inducing the profession elsewhere to join and cut out about nine-tenths of the pharmacopœia—and to separate the few grains of gold in it from the enormous amount of what is practically dross.

I will just mention here a few points relative to some of the dangers which may arise from drug remedies. On the 13th of the present month the *British Medical Journal* gives the report of " An inquiry regarding the importance of ill-effects following the use of antipyrin, antifebrin and phenacetin, by the Therapeutic Committee of the British Medical Association." I can only give two or three lines of the ten to eleven close columns of the report, as follows :—" The list of ill-effects noted with antifebrin is not only a very formidable one in itself, but loses none of this character when we consider the frequency of their occurrence." True it is that, as regards the freedom from ill-effects of the three drugs, antifebririn is third and last ; phenacetin being first.

We must admit, furthermore, that the ill-effects from the administration of almost any drug may be considerable, even serious, and not be manifested even on close observation for a long period of time ; just as we know is the case with certain kinds of food consumed. And when we think for a moment of the complex, intricate nature of the physiological and vital processes going on within the human organism, or of the susceptible nature of the digestive ferments, for example, we can readily understand, theoretically, that the introduction into the body in any way of but a mere trace of some chemical product, even one regarded as mild in its action, may interfere with or disturb, little or much, the process of nutrition, as well as other functions. The same may be said in respect to disturbing in like manner the natural healing processes—to interfering with the formation of nature's germicide, for example, or with the vigorous action of the army of phagocytes. For do as we will or may, nature ever reserves for herself the maximum of power in the direction of the processes of healing. In the words of a paper by Dr. Von Dunhoff, in the *New York Medical Journal*, of a few months ago :—" I submit that however efficient as germicides certain chemical agencies may prove to be in the laboratory, the same impracticability attends them in their adaptation to clinical issues, and renders the effect of their use here either nil or mischievous, as is the case with respect to the

effects of many of the so-called chemical preparations, presumably prepared with the nicest precision as supplemental ingesta, intended for the correction of certain qualitatively defective conditions of the blood and tissues ; and unless the inherent residual vis resistentiæ naturalis vouchsafes recovery, no man has yet attained the means of compelling such an issue artificially."

Experiments have shown that mice under the influence of chloral contract infections more readily than mice not under the influence ; the chloral probably depressing or embarrassing the action of the phagocytes.

The millionth part of a drop of blood from a rabbit affected with anthrax may communicate this malignant disease to a healthy rabbit. Possibly a much smaller quantity than the millionth part of a drop, say the four millionth part, would not communicate the disease to the animal when it is in a natural vigorous physical condition. But who can measure the infinitesimal quantity of chloral for example or other drug, which having been first given to the healthy animal, might so depress the phagocytes in its blood as to enable the baccili of the disease, in that four millionth part of a drop of the infected blood, to come off the conquerors, establish their colonies and the disease, and destroy the life of the rabbit? Or who could weigh the mere trace of some of the depressing or soothing drug remedies commonly given in infectious pneumonia, or in the earlier or sthenic stage of some of the infectious fevers, which might possibly so interfere with the formation or action of the natural germicides in the body of the patient as to lessen the chances of recovery, or possibly to favour auto-infection ?

Nor must we, moreover, meddle too far with benign nature even with our more natural remedies. No physician dare interfere with compensating hypertrophy of the heart in valvular disease. So in certain cases of epilepsy. In the words of Dr. Lyman, Professor of the Principles and Practice of Medicine, Rush Medical College, Chicago, in a recent address delivered before the Michigan State Medical Society, on the " Limitations of Therapeutics" :—" Though the paroxysms of the disease may

have been suppressed and the patient apparently cured, or if not absolutely cured, greatly relieved for a long period of time, the patient will sometimes tell you that after all he would prefer not to continue treatment any longer. Not because dissatisfied with your methods or measures, but because he felt so much better when the disease was allowed to run its natural course, and because an explosion or conlvulsion at certain stated intervals seemed to give absolute relief, showing that the wisest and best therapeutical methods [or what appears to us to be wisest and best] may nevertheless absolutely fail in giving to the patient that degree of comfort and satisfaction which we desire and which nature knew how to bestow." So that it is sometimes better to bear the ills we have than to fly to others we know not of. True, if the cause or causes of the diseased state which gives rise to these explosive convulsions as a means of relief were first removed instead of the mere symptoms being treated, the result would be quite different.

Permit me then just to mention here in this connection, as a reminder, and we all need frequent reminders, the fact that, in the treatment of disease, there are two most important points, to bear in mind : first, to ascertain, if possible, by the most careful and thorough examination, the cause or causes of the diseased condition or symptoms we are called upon to treat ; and second, to remove the cause or causes or prevent the recurrence of the same. Then, in very many cases, if we provide the ordinary essentials of health and life—pure air, water and sunlight, securing the utilization through the respiratory organs of abundance of oxygen, with suitable food, clothing and rest, or it may be exercise, probably partial, passive exercise, as in passive movements by another person or in massage, with the means of absolute cleanliness—abundance of water, dirt being so common a cause of disease, then usually benign nature " will do the rest." Hence a very much larger proportion of the time given to the study of medicine should be devoted to the study of pathological conditions, and especially to the causes of these conditions.

The application of these natural remedies, the essentials of

life, as above named, may be termed natural therapeutics. Or, if I may be permitted to coin from the Greek a new term, for I have never observed it in print, a term more in accordance with medical nomenclature than the words hygienic treatment commonly used, I would suggest the term, Physiotherapy. Let us notice more in detail, yet briefly, a few of these therapeutic remedies.

Pure air and sunlight are recognized by everybody as being most valuable restoratives; yet they are not nearly so often prescribed and administered therapeutically to patients as they might and should be, and before drugs. Were they costly remedies and not free to all they would perhaps be more commonly prescribed. Besides, many people do not know how to breathe in, and get the full benefit of, pure fresh air, with its life-giving oxygen. They make only partial use of their respiratory organs. I have tried the experiment of inducing patients who suffered from weak, inactive lungs and consequent general debility, to draw in more fresh, cool air at each inspiration—to "eat the air," as the Hindoos have it. From this prescription alone great improvement has resulted. Deep forced inspirations will increase the bodily temperature.

The diet being a common cause of bodily derangement and disease, we have in modification of it and in feeding or fasting, a potent remedy. While many patients need feeding, with a more nutritious or suitable, if not more abundant diet, many on the other hand require to let the digestive, nutrient, and excretory organs rest by remaining in bed for a time and eating almost nothing—fasting. Regulation of the diet in these various ways has alone in my hands proved to be a very efficacious remedy.

A complete rest for the whole organism, in this rushing age, with feeding or fasting as indicated, probably a few days of fasting and many more of feeding, is not infrequently a prescription strongly indicated and much needed, and alone is often sufficient to restore health. And the "rest cure," as it is called, is becoming as we know a somewhat common practice. It is to be hoped fashion will not abuse it.

Medical influence : Before noticing passive exercises and hydrotherapy I may just refer to this as a remedy. To it may be attributed the miraculous cures we read about occasionally, "faith cures" and the like. What physician has not witnessed the effects of mental influence exercised through the power of hope, in many cases of disease ? or of the power of a strong will in overcoming disease ? I will allude to but one practical and direct example of the power of the mind over the body : that of defecation in constipation from the sluggish state of the lower bowel. Persistent concentration of the will upon the parts, accompanied, not by straining but simply by desire of action, will alone overcome many cases of habitual constipation. Massage will usually aid in producing, and hasten, the desired action.

Mention may be made, too, as associated with mental influence, of hypnotism with suggestion ; which although attracting a good deal of attention in France, is not yet well understood nor generally recognized as a remedy in practice.

Electricity is apparently destined to become an important remedy and may also be regarded as a natural one, in the treatment of disease, especially as produced by friction or usually termed static electricity. With its small volume and high degree of force in this form it has already produced highly satisfactory results. The nature of its action not being yet well understood, its use is necessarily empirical, and is a very bonanza for quacks. True it is that many of our most valuable remedies have been brought into use in this way. It has not fallen to my lot to have had much experience with electricity. Indeed, with the other remedies at command, I have never yet experienced the need of it ; the electrical effects of massage usually sufficing.

Kinesitherapy—Passive local movements or exercises, as in massage and the manual or mechanical movements commonly termed Swedish, constitute a most potent remedy in a large number of diseases. It is a remedy the action of which we can readily understand and regulate and control. While the practice of massage—kneading, rubbing, percussing, or tapping,

is rapidly coming into general use, the so-called Swedish movements, which are of equal if not of greater value, seem not to be so generally practiced.

The effects of these passive exercises of the muscular tissue, by either massage or the more natural movements, while readily comprehended, are sometimes almost phenomenal. Diseased conditions are removed by substituting natural healthy action. They aid the natural forces in eliminating morbid or poisonous accumulations from the system. In all forms of dyspepsia, in dilatation of the stomach, when the muscular tissue is weak and inactive, in helpless cases of rheumatoid arthritis, even of several years standing, in curvatures of the spine and other deformities, and in paralysis of motion, no other treatment is so applicable and successful ; when combined, I need hardly add, with other physiotherapeutic remedies, especially with abundance of atmospheric oxygen and proper food, and in rheumatism with the warm bath.

In relation to kinesitheray I will only add that, in all cases of muscular asymmetry, with the accompanying want of uniformity in action and vigour, a condition which is the forerunner or cause of many diseased conditions, especially as found in gynæcological practice, and in which ordinary exercise is not admissible, no other treatment meets the requirements so completely. As. Dr. Kellogg, of the Battle Creek, Mich., Sanitarium, says, in " Modern Medicine and Bacteriological World," in his " experience with several thousand cases, lack of muscular development is the cause of a great share of uterine and ovarian displacements," and a " substantial cure cannot be effected by any other means." In the majority of cases the patients cannot take general " exercise " themselves, and these partial exercises supply the want.

Hydrotherapy : We now come to the last therapeutic agent to which I shall draw attention, and which indeed I regard on the whole as the most important and valuable of all—the common element water, in its various forms of application as in hydrotherapy.

When we consider the broad fact that many diseases, func-

tional and organic, if indeed there be any distinction, are caused more or less directly by dirt, dirt outside the body or within it, we can at once comprehend the value of water as a therapeutic remedy, and in the simplest form of application—water in which to wash and be clean. I need hardly refer to its value, as confirmed by the highest authorities, in washing out, with copious water or salt and water injections, the intestines in cases of cholera. I believe it would have an equally good effect in typhoid fever. Nor need I refer to its value, when copiously swallowed, in washing out the entire internal structure of the human body, to the minutest recesses among the tissues, as when the organism has become loaded with the debris—the dirt, practically —of the ordinary functions of life, which has accumulated in the fluids and tissues from want of proper hygienic care or habits. We know that it is now the opinion of many physicians that it is to the copious water drinking in most cases, much more than to any mineral ingredients in the water, that many of the popular "springs" owe their popularity. Persons suffering from excess of waste matters, and the poisonous substances arising from the decomposition of these in the tissues and fluids of the body—from impure blood, receive at the springs a complete wash-out —flushing—a succession of internal baths ; they are simply washed and made clean.

But water, it need hardly be said, has as a medicament a much broader application than is indicated in any of these pathological conditions. Remarkable physiological and therapeutical effects can be produced by the application of water in various ways, and on the whole more safely and naturally than with drugs.

The only work on this subject in the English language, untainted with quackery, so far as I know, if we except the valuable treatise of Winternitz in Ziemssen's Hand-book of Therapeutics, now practically out of print, is that on the "Uses of Water in Modern Medicine," by Simon Baruch, a physician holding many high positions in New York, published a year or so ago by Geo. S. Davis, of Detroit. If any of you are not in possession of this practical little work, I take the liberty of saying that you should get it at the earliest opportunity. It consists of two volumes of

the " Physician's Leisure Library" series and is very inexpensive.

Dr. Baruch makes this happy distinction between hydrotherapy and hydropathy : " The former accepting water as one important remedial agent, the latter regarding it as a universal remedy." To my mind it is just about as Dr. Baruch further says : " While I emphasize my belief in all those drugs whose effects have been positively demonstrated in the laboratory and at the bedside, I espouse water as perhaps the most potent of remedial measures ; . . . upon the historical, physiological and clinical grounds succinctly set forth in the following pages ;" *i.e.*, of his book. Again, he continues : " The history of water as a therapeutic agent is not only a most interesting chapter, but it affords the clearest demonstration of the instability of therapeutic propositions, and the manner in which prevailing ideas influence them. Although the literature of the subject is the most extensive published with regard to any remedy, recent works on therapeutics treat it with a decidedly stepmotherly regard ; they dismiss it in a few beggarly lines, preferring to devote their columns to essays upon the action of remedies . . . whose actual clinical value is, in most instances at least, problematical. The history of water teaches clearly that no other remedy has so creditably passed through vicissitudes of depression, and that, despite professional and lay prejudice, it stands to-day unscathed and rendered secure against assault by the panoply obtained from physiological and bedside results."

A few words here on the history of hydrotherapy will be both interesting and profitable. Hippocrates laid down rules for the treatment of disease by water, which even at this day are practiced by both physicians and quacks. Two and a half centuries later, Asclepiades, though, it appears, not possessed of much real medical knowledge, by his great natural ability and discretion, attained eminence in Rome as a practitioner, depended almost entirely for his success on a judicious diet, massage and baths ; by means of which he performed " miraculous cures." So warm an advocate was he of the water treatment that he was dubbed " Psychrolutus." Through Asclepiades

hydrotherapy was popularized in Rome. He formed the school whence sprang Themison, Celsus and other eminent physicians. A pupil of his, Antonius Musa, restored the Emperor Augustus to health by the vigorous use of cold water ; and he had Horace too for a patient. So grateful was the Emperor that he bestowed upon him and the whole medical profession the privilege of citizenship, and had a statue erected to Musa next to that of Æsculapius. Celsus, the " Latinorum Hippocrates," prescribed water freely ; as did also Aurelianus, who originated the wet sponge abdominal compress for hypochondriacs. Galen was an advocate of cold water baths, and was the first it appears to advise cold applications to the head while the body was immersed in warm water. We know but little relating to the history or practice of medicine in the many dark centuries which followed the time of Galen. Oribasius of the fourth century, Ætius of the fifth, Trallianus of the sixth, and Paulus Ægineta of the seventh, the most noted of their time, were all zealous Galenists it appears and followers of his practice. Ægineta was an enthusiastic advocate of the use of water, and was the first to advise the cold douche in sunstroke. All the more eminent physicians of the next few centuries, during the more dense barbarism of Europe—Serapion of Damascus, Rhazes of Irak, Avicenna of Bochara, and Avenzoar of Seville who, it is said, lived to the age of one hundred and thirty-five years, appear also to have been disciples of Galen, following in his line of practice. Chemistry made considerable progress during that period, and there were many additions to pharmacy, and possibly but little water was used in any way until the dawn, in the seventeenth century. The Hippocrates of England, Sydenham, holding the more enlightened view that diseased action consists essentially in a natural effort of the system to remove morbid or noxious products, his practice was, like that of Hippocrates, to assist nature. I cannot learn that he relied much upon hydrotherapy ; but a few years after his death, about the close of the seventeenth century, Sir John Floyer, physician, of Lichfield, Eng., published a " History of Cool Bathing, Ancient and Modern," a book which created an epoch in hydrotherapy,

passed through six editions within a few years, and many years later was translated into German. Blair and Cheyne, English physicians of the highest standing, recognized hydrotheraphy in their practice. The illustrious German physician, pathologist and clinical teacher, Hoffman, was the first to distinctly recognize the influence of water upon the " tone " of the bodily tissues. After his time, during the eighteenth century, the use of water in medical practice became much more popular in Germany. The surgeon of Frederick the Great, Theden, was the first to use it in fevers, small-pox and rheumatism. He improved the shower bath and warmly advocated its use. About this time Hahn and his son and Oertel helped much to establish the principles of modern hydrotherapy in Germany, in both acute and chronic diseases. The work of the illustrious Currie, published in 1797, first placed hydrotherapy on a scientific basis, it appears. It advocated the use of water in gout and paralysis as well as in fevers, and was translated into German and other languages. Although the practice of hydrotherapy was more popular in Germany than in England at this time, it is contended that it was by reason of translations of English writers, as Floyer and Currie. The practice of the latter was adopted in the Vienna hospital. To mention the wise, philosophic Hufeland as an enthusiastic and yet judicious advocate of hydrotherapy, as Baruch says, is to " give the imprint of true medical wisdom to it, and to indicate its wide adoption among the profession. He offered a prize for the best treatise on the action of cold water in fevers, determined by scientific thermometrical study." A Vienna professor was the successful competitor, whose treatise was published in 1823.

Notwithstanding all this, and more, hydrotherapy did not become generally popular until the time of the German farmer, Vincenz Priessnitz, who at his home in Grafenberg, Silesia, first received patients, enlarging his house as occasion required. In 1840 he had treated over 1,500 persons, from various parts of the world, and twelve years later had amassed an immense fortune. " His success was brilliant because he was a careful observer, a good judge of human nature, and his mechanical

skill enabled him to invent various technical modifications of the water treatment, many of which have been adopted by the profession and are still in use. A copious literature sprang up in all parts of the world, and many institutions were modelled after his establishment; monuments and fountains were erected to his memory. Physicians from all countries, who had been attracted to the mountain home, became converts to and missionaries of his practice." A few years later, Scoutetten, a French physician, after studying hydrotherapy in Germany, reported that, " The numerous permanent cures it has wrought recommend it, and it lies in the interest of humanity and medical science that its practice in Paris take place under the eyes of able physicians." Magendie aided in the propagation of hydrotherapy by physiological demonstrations. Fleury introduced douches, and explained his clinical success on physiological principles. Fever treatment as now practiced was initiated by Brand, who in 1861 published his startling results from immersions and compresses with water at 54° to 68°F. The practice was soon introduced into England by Wilson Fox.

Respecting the practice of hydrotherapy, as Niemeyer, in his work on practice, says :—" A series of cases are on record in which complete and perfect cures have been obtained by it, after all other methods of treatment had been applied in vain." Dujardin-Beaumetz (lectures at l'Hopital Cochin, 1887) said : " The benefits we obtain from cold water in the cure of disease arise from its physiological effect upon the circulation, the nervous system, the nutrition, and from its revulsive and heat lowering influence." Prof. Peter, of Paris, in his preface to the great clinical work on hydrotherapy of Duval, writes :— " Hydrotherapy suffices in most cases of disease ; added to other treatment, it is a most powerful auxiliary." Prof. Erb, in his classical contribution to Ziemssen's Cyclopædia, writes :— " To the most important and most active agents in the therapeutics of our field (nervous diseases) belong cool and cold baths, viz., the application of cold water in the most varied forms ; that which is usually termed ' cold water treatment.' Having been in recent times practiced more rationally and

studied more exactly, it has attained remarkable prominence. Its results in all possible forms of chronic nervous diseases are extraordinarily favourable. If we add to this the heightened skin and muscular action induced by various methods of bathing, the influence of diet, etc., it becomes evident that we possess few remedies which produce an equally powerful effect upon the nervous system." Semmola, Professor of Therapeutics in the Naples University (lectures, 1890), says :—" Hydrotherapy stimulates cutaneous activity, and with it all functions of tissue change and organic purification, so that often real marvels of restoration in severe and desperate cases are accomplished. Unfortunately, those remarkable results are more rare to-day than they were in the time of Priessnitz, of which I was myself a witness." In all cases of retardation of tissue-metamorphosis, he says, " hydrotherapy presents a truly rational treatment, and therefore unfailing effects, unless the local processes have reached incurable limits."

I could give many pages of such quotations from our highest authorities as to the value of water in the treatment of disease, but the above will suffice.

About a year ago, Rovighi, at a medical congress in Rome, read a paper respecting the effects upon the blood cells of the application of water, as shown by experiments he had made on men and rabbits. In March last, Prof. W. Winternitz, of Vienna, published (in *Cent. fur Klin. Med.*) a contribution on the same subject. Since that time, investigations by Dr. W. S. Thayer, of the Johns Hopkins hospital, and more recently still, studies at the Physiological Laboratory of the Battle Creek Sanitarium, have verified the results of the other investigations. In *Modern Medicine*, for December, is a translation by Dr. J. H. Kellogg of another article which had just been published by Winternitz (in *Blat. fur Klin. Hydrother.*) on the same subject. All these show clearly that the application of water, apparently hot or cold, to the surface of the body produces an increase, sometimes large, in the red corpuscles, leucocytes and hæmoglobin in the circulating blood. Winternitz reports :—" The maximum increase in red-blood corpuscles observed in

fifty-six persons examined, was 1,860,000 per cmm. The maximum increase of leucocytes was to the extent of three times the ordinary number. The maximum amount of hæmoglobin observed was fourteen per cent." Blood corpuscles stagnant in various organs and tissues are by such means, as in the case of muscular exercise, forced into the general circulation.

At the late Pan-American Medical Congress, Washington, Dr. Baruch, opening the discussion relating to the value of cold water in asthenia, mentioned the astonishing effects of the cold douche. It rouses the circulation and " sets the wheels of life again in motion" in the very climax of this condition—with " thready pulse, shallow breathing, dull eye, picking at bedclothes, subsultus, involuntary defecation,"—in any febrile condition, scarlet fever, &c. (*Therap. Gaz.*, Jan., 1894) and produces effects which no known drug remedy, not even alcohol, will produce.

I will but mention, what some of you may not have read of (in *Jour. of Am. Med. Assoc.* and *N. Y. Med. Jour.*) the Schott method of treating chronic heart disease by warm baths aided by muscular exercises. During the baths there is a reduced frequency of the pulse, with increased volume and strength and less irregularity. This effect is lasting, and a gradual amelioration of symptoms follows persistent treatment. It is said this treatment is applicable to a greater variety of cases than is Oertel's method. Schott medicates the baths by salines or carbonic acid ; but their value is probably almost solely due to the regulation of the circulation by the temperature of the baths. This I believe from personal experience.

Permit me, in conclusion, to say a very few words in respect to my own limited experience in the practice of hydrotherapy. In the latter part of my teens, having been a pretty hard working student, I was troubled a good deal with indigestion and a consequent want of good general health and vigour. In opposition to the wishes of my father, who was bitterly opposed to any semblance of quackery, and after having taken a good deal of medicine from several of the best physicians of the time

in the country around, under pretence of visiting friends during holidays, I placed myself under the care of a Mr. Brown, who had during the time of Priessnitz's popularity, which it appears extended to the utermost parts of the earth, started a hydropathic establishment, or "Water Cure," in Newmarket, Ont., near my home. Brown had no medical knowledge, and his failures probably outweighed his successes ; but the "cold wet pack" or "sheet bath," and other forms of water application, which he prescribed benefited me, and was the starting point of my faith in the value of water as a therapeutic agent. During after years of laborious country practice, and many of them, although the want of available correct literature on the subject was a great drawback, I frequently availed myself of water as a remedy especially in copious draughts of it as a most certain and efficient diuretic and diaphoretic, directly unloading the cutaneous tissues and urinary organs, and through them in a large measure the entire body, of accumulated obstructing matters ; as hot and cold compresses in local pathological disturbances ; as a tonic in the form of a cold sponge or shower bath ; as a most soothing regulator of the entire organism in the form of a warm bath ; and in other ways. Of one thing I feel certain, I never in my practice knew the free use of water to do any harm. This, neither you, gentlemen, I think, nor I, can say of drug remedies. When weary and exhausted from riding all day, and perhaps all night, on the saddle or a two-wheeled chaise, nothing gentlemen, be assured, will rest and recuperate you, soothe the irritated nerves and equalize the disturbed circulation, like a warm bath, at a temperature of 93° or 94° to 97°F. Having spent many an hour reading in such a bath, I speak from personal experience. And now, largely as a consequence, when not very far from being 60 years "young," I feel better, more vigorous, youthful and clear headed than when at half the age. The warm bath you know has a high reputation too for warding off the effects of age. There is no other remedy so refreshing. Thus Minerva imparted renewed vigour to the weary limbs of Hercules. And three thousand years ago,

Homer wrote Hector's wife prepared warm baths that, " Returning from the fight," at Troy, " Hector might be refreshed."

. . . . . " Not yet the fatal news had spread
" To fair Andromarche, of Hector dead ,
. . . . . .
" Her fair-haird hand-maids heat the brazen urn
" The bath preparing for her lord's return.

Retrospect Department.

RETROSPECT OF PHARMACOLOGY AND THERAPEUTICS.

By A. D. Blackader, M.D.
Professor of Pharmacology and Therapeutics, McGill University.

On the Treatment of Chlorosis, (*Therapeutic Gazette*, November, 1893), by F. Forchheimer, M.D.—In an excellent paper the writer maintains that the varied symptoms of chlorosis are due to two factors: (*a*) Deficiency of hæmoglobin producing an oxygen famine in the tissues, and thus interfering with their nutrition and functions; and (*b*) the presence within the blood of a toxic albuminous body which, the writer believes, has its origin in the intestinal tract, and is the result of some perverse process, either bacillary or digestive, preventing the contruction of the extremely complex hæmoglobin molecule. In treatment the principal remedies are iron, blood preparations, arsenic, and intestinal antiseptics. While admitting that in the greater number of cases inorganic iron, given by the mouth, does cure, yet in a minority it seems to be entirely without effect. It is evident that in these it is not the iron supply that is defective, but the iron utilisation, since many times the amount of iron required by the whole blood quantity has been given daily. It appears then that it must act in some manner other than by its simple presence. In its administration the author gives his preference to iron in organic combination. Hæmol and hæmogallol, the former a zinc and the latter a pyrogallol, derivative of hæmoglobin, he thinks cannot be pronounced more serviceable than hæmoglobin, but they are sometimes more available, as they can be given in wafers or chocolate tablets; the latter being especially valuable for children. Beef juice, blood itself, or blood conserves do just as well as anything else. The most desirable of these preparations is that one which can be taken most readily by the patient for a long time. Of the inorganic iron preparations, there is no doubt that some act better than others. He advises the choice of such as irritate the stomach least, are non-poisonous, and, when forced from their acid combination, will give rise to a substance which

has a tendency to counteract the cause of the chlorosis. The action of arsenic upon hæmoglobin formation is no doubt an indirect one. Its influence is often very valuable and is doubtless due to its effect upon digestion, notably upon digestion in the small intestines. He thinks it very effective in the anæmia of children due to intestinal disorder. Arsenite of copper is of value in those cases where the bowels are loose and intestinal catarrh may be considered as the cause of hæmoglobin diminution. Regarding intestinal antisepsis, the writer thinks that clinically we can produce this to the extent of preventing any abnormal putridity, and possibly, also, of preventing any perverse hydrolytic action interfering with hæmoglobin formation. Of many antiseptics experimented with, he has obtained the best results from hydronapthol, salol, and creosote. In a former paper (*Am. Jour. Med. Science*, July, 1893,) he has stated that the hæmoglobin could be increased, in all the cases in which he had tried it clinically, by the administration of either salol, or hydronaphthol, the latter being rather more rapid in its effects. Since then he has obtained the most satisfactory results, as proven by numerous analyses of the blood, by combining an intestinal antiseptic with the use of a blood preparation. He especially recommends five grains of hydronaphthol, or salol, before meals, and the same quantity of hæmogallol immediately after meals. When the latter cannot be obtained, large quantities of beef juice, or any of the many preparations containing blood, may be substituted. Care must be used lest the salol give rise to symptoms of phenol poisoning. Second in its results only to the above plan, is the administration of the antiseptic before the meal, and some form of inorganic iron, after the meal.

An Enquiry Regarding the Importance of Ill-Effects Following the Use of Phenazone, Acetanilid and Phenacetin, conducted by the Therapeutic Committee of the British Medical Association. (*British Medical Journal*, Jan 13th, 1894.)—In this very carefully conducted investigation the committee report that the result of their enquiries demonstrate that in the large majority of cases the ill-effects have been the direct result of injudicious and excessive dosage. In reference to

phenazone, they conclude that the ill-effects are not of the frequency or importance ascribed to them by a wide-spread impression. Among the precautions to be adopted, the most useful one is to begin with small doses, not exceeding 10 grains, and to be careful not to repeat it too frequently.

The reports in reference to acetanilid, as compared with phenazone, point to a radical difference, not so much in the physiological action, for that is exerted in both cases chiefly in the circulation and nervous system as in the power of the two drugs. Acetanilid is a much more powerful drug than phenazone. Speaking generally, it may be said that 2 grains of acetanilid, as regards its general therapeutic effect, is equivalent to about 10 grains of phenazone. The reports would place the ill-effects of acetanilid as of a much more severe character, and more frequent occurrence, than those of phenazone, while there is no such direct relation of the ill-effects to the dosage to be made out as was the case with phenazone ; indicating that acetanilid is more inconsistent in its action, and correspondingly more dangerous, than phenazone. They consider that to give acetanilid in doses of 5 or 6 grains, and still more to repeat these doses after a short interval, is a highly injudicious procedure.

Phenacetin appears to be in exceedingly good repute with those who have had an extensive experience of it. Ill-effects have been strikingly infrequent, and there is much unanimity as to the great value of this drug, especially as an analgesic, The initial dose that may be given with safety would appear to be from 5 to 8 or 10 grains.

Blood Changes in Hydrotherapeutic Treatment. (*Centralblatt f. Klin. Med.*, Dec. 9, 1893, *Brit. Med. Jour.*, Jan. 6, 1894).—By Professor Winternitz.—The writer in this article describes his investigations made upon 56 cases, either in health or with slight ailments, and particularly in anæmia. In a general application of cold to the body in varying ways, the blood taken from the finger and ear showed considerable increase in the number of red cells as well as of white cells. The hæmoglobin was also present in larger quantity, the increase reaching its maximum in one or two hours after the bath. The white cells are less constant in their behaviour. The increase he ascribes

to changes in the circulation, heart's action, tone of vessels, &c., and he considers the effect on metabolism virtually the same as if the cells were actually increased. He has shown that more oxygen is taken up, and more carbon dioxide given off, as a result of the application of cold. By methodical repetition the above changes should become permanent. He refers to the good results thus obtained in anæmia and chlorosis, and thinks that in this way the beneficial effects of hydrotherapeutic measures receive a scientific explanation.

On the Administration of Calcium Salts in Hæmophilia, and Actual, or Threatened, Hæmorrhage, (*British Med. Jour.*, July 29, 1893,) by Dr. A. E. Wright.—After a very interesting paper describing a method for determining the condition of blood coagulability, without which, he says, the necessary clinical data cannot be collected, the writer goes on to speak of the results obtained from the internal administration of lime salts. He found that in capillary tubes of standard size filled with blood from the tip of the finger, the time required for coagulation was reduced from 12 minutes to 6 as a consequence of an addition of a small quantity of calcium chloride to the intra-vascular blood. He believes that there is a strong presumption that calcium chloride in small doses will prove of utility in the treatment of internal hæmorrhage, aneurysm and hæmophilia. An excess of the calcium salt, however, appears to interfere with coagulation.

Clinical Remarks on the External Use of Guaiacol in Reducing High Temperature in Typhoid Fever, and other Febrile Diseases. (*Medical News*, Jan. 27, 1894.) By Dr. J. M. DaCosta.—In this article the author gives us the result of his experiments in the reduction of high temperature in continued fevers, by the external application of guaiacol. The powerful antipyretic effect of this drug when applied to the skin was first pointed out by Sciolla (*Sem. Méd.*, No. 21, 1893). Then followed Bard's observations on tuberculous patients, which were soon corroborated by Lannor's. The writer, after reflection on these observations, determined to make use of it in the continued fevers, when the temperature ran high, in such cases as would ordinarily have been treated by cold baths. In

each case the local application of guaiacol was followed by a distinct, but slow, reduction of temperature, unattended by any noticeable disturbance of the circulatory or nervous system. There was no delirium, no change in the pulse or respiration, no obvious change in the urine. Sweating occasionally happened, but was not liable to be great. In some cases chilly sensations were experienced as the temperature fell. Dr. DaCosta thinks that this mode of treatment will prove useful in all those cases in which one might employ the cold water treatment, if the conveniences were present, or circumstances would permit. The guaiacol treatment is to be preferred in all instances where moving or disturbing the patient is to be avoided, and in typhoid cases where a tendency may exist to severe diarrhœa, or to intestinal hæmorrhage. One of the chief objections to the treatment is the decidedly unpleasant odor caused in the sick room. It is best overcome by the addition of oil of cloves. The mode of employment recommended is by rubbing it upon the skin of the abdomen or thigh, after the selected spot has been first prepared by washing with soap and water. It may also be simply painted over the surface, which will then be covered with lint and waxed paper, but in this case the effect is not so rapid. The maximum dose in his investigations was fifty drops, but this amount is rarely required, and should never be exceeded. The average dose is about thirty drops. With a temperature of 103°, it would be advisable not to exceed twenty minims at the first trial. He advises that the urine be carefully examined during the employment of the drug, but in none of his cases did he detect any signs of kidney irritation.

Correspondence.

A CORRECTION.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

Will you kindly make a correction in the report of the "Aneurism of the Ascending Aorta," in the March number of the JOURNAL, to the effect that it was Dr. G. F. Shaw, of St. Andrew's, P.Q., who performed the autopsy and sent in the specimen. I notice that the initials are incorrect, and that due credit is not given to him for obtaining this valuable specimen.

Yours sincerely,

EDWARD P. WILLIAMS.

Reviews and Notices of Books.

A Hand-book of Ophthalmic Science and Practice. By Henry E. Juler, F.R.C.S., Ophthalmic Surgeon St. Mary's Hospital, &c., &c., with illustrations; 2nd edition. Philadelphia: Lea Brothers & Co., 1893. 549 pp. 201 woodcuts, xvii. chromo-lithographic plates.

Mr. Juler's book appears in a second edition, much enlarged and brought up to date.

It is a valuable text book for the student, ranking with such works as Nettleship and Swangy, not being so elaborate as Perry's or Fuchs' works.

The anatomy and physiology is treated well and thoroughly and the latest methods are elaborated in detail.

In Blepharitis, the author mentions as the most frequent cause, a persisting strumous or granular conjunctivitis, the discharge caking around the lashes, setting up the trouble.

In refraction the known methods are entered into and a detailed description of Maddox tests for the muscular insufficiencies (so-called) is given.

The book is profusely illustrated and well gotten up.

The Physiologist's Note-Book: A Summary of the present State of Pysiological Science, for the use of Students, by Alex. Hill, M.A., M.D., Master of Downing College, Cambridge. With 36 plates and blank pages for MS. notes. London: Charles, Griffin & Co., Ltd., 1893.

The author in the preface explains why he has added another work to Systematic Physiology as follows:

"The object of the 'Note-Book' is to assist the student in codifying his knowledge, not to diminish the need for larger text-books, much less to take the place of lectures and laboratory work. The 'Note-Book' deals with the arguments of physiology. . . . . I have made an attempt, which might perhaps be carried further with advantage in other scientific text-books, to show the logical sequence of the several points of the argument by their typographical arrangement on the page."

This work is prepared by a teacher of fifteen years experience, and that in itself is a strong recommendation. The book is not a "quiz-compend," a form of literature that has done a

vast amount of harm and very little good, inasmuch as it has discouraged the educative reading of good books and fostered the worst sort of cramming.

The work under consideration occupies a place far above such condensed presentations of knowledge in all but useless, if not positively delusive form.

However it is not without its dangers also. If one could be sure that the 'Note-Book' would be put to its legitimate use, it would no doubt serve so good a purpose as to deserve the commendation of all. But with an examination before the student those who have actual experience as teachers and examiners know that even in such matters human nature is "unco, weak and little to be trusted."

The book is an accurate and fairly complete "summary of the present state of physiological knowledge," as the author terms it. It should prove valuable to all teachers of physiology. The references to the literature in English, of each subject given in the form of foot-notes, are very welcome, and for once we are glad to see that the work of American authors is recognized, which has not always been the case with English writers on physiology. Undoubtedly Dr. Hill's "Note-Book" will prove a valuable work when properly used.

Tumours, Innocent and Malignant, their clinical features and appropriate treatment. By J. Bland Sutton, Assistant Surgeon to the Middlesex Hospital. With two hundred and fifty engravings and nine plates. Lea Brothers & Co., Philadelphia. p. 511.

The classification adopted by the author is based on the minute structure of the tumour. He divides all tumours into four groups as follows:—I. Connective tissue tumours; II. Epithelial tumours; III. Dermoids; IV. Cysts. Each of these groups is further subdivided into genera. The formations known as infective granulomata are excluded from tumours, and this, according to the author, is a class which is likely to be largely increased at the expense of the sarcomata and carcinomata.

This classification is a very useful one, and one that is not only convenient clinically, but also as a working basis for the investigation of these growths, their life history and their

effects on the system. It does away with the old division into malignant and benign which has been the foundation of so many classifications which served more to confuse the student than afford him any real help.

Mr. Sutton has given us a book that marks an era in this subject. His collection of cases is most interesting, and he has not hesitated to go outside of the narrower limits of the human being into the wider field of the whole animal kingdom in search of examples of the various tumours and to explain their formation. His views are at times at variance with those commonly held, but at all times will appeal to the reader as being rational and carefully thought out. The book is fully illustrated, which adds much to its practical value. It is a work which can be recommended without reserve as being an authoritative guide to the diagnosis and treatment of tumours.

A Practical Treatise on Medical Diagnosis, For Students and Physicians. By JOHN H. MUSSER, M.D., Assistant Professor of Clinical Medicine in the University of Pennsylvania. Illustrated with 162 wood and 2 coloured plates. Philadelphia: Lea Bros., & Co., 1894.

Dr. Musser's work belongs to the very modern type of works devoted to the diagnosis of disease. Special attention is "paid to research for objective phenomena appearing in physical, chemical and biological changes in the tissues and secretions." The first part of the work deals with medical diagnosis in general, including chapters on bacteriology in medical diagnosis and the examination of exudations, transudations and cystic fluids.

The second part which forms more than four fifths of the volume deals with the diagnosis of special diseases. The work on the whole is excellent. It represents a great amount of honest toil.

A Text-Book of Physiology. By M. FOSTER, M.A., M.D., LL.D., F.R.S., Professor of Physiology in the University of Cambridge. Fifth American from the fifth English edition. Philadelphia: Lea Bros., & Co., 1894.

The fifth American edition of Foster's great work differs from the English edition in being complete in one volume. This is certainly a great advantage to the busy student and

practitioner. It is needless to say that the present edition is in every respect fully up to the physiology of the day. The clear, forcible style of the author makes it a pleasure rather than a task to read even the most difficult chapters.

A large number of histological diagrams with descriptive text has been introduced for the first time into the work. This will be a great saving of time and labour to the reader.

Foster's work on physiology remains and is likely to remain for many years, the most important work on the subject in the English language.

On Diseases of the Lungs and Pleura including Consumption. By Douglas Powell, M.D., Physician to the Middlesex Hospital. Fourth edition with illustrations. London: H. K. Lewis, 1893.

The fourth edition of this important work on diseases of the lungs is in every respect brought up to the present standard of knowledge on the subject.

The articles on Phthisis have received a very careful revision.

The author draws attention to the extreme views held by some medical men on the treatment of phthisis. He rightly points out that it is easy to loose the chief indication for treatment if the mind is solely directed to the infective nature of tuberculosis.

The entire separation of the phthisical from their friends is surely a piece of needless cruelty. Equally cruel and equally needless is the custom of some general hospitals in entirely refusing patients in all forms and stages of pulmonary consumption.

The chapters on Pneumonia and Pleurisy are well worthy perusal.

The author here as in all parts of his volume, deals in a common sense way with his subject. He is not led off the safe track by every noisy writer. We therefore find no extravagant statements regarding the value of any drugs in the treatment of these diseases.

Dr. Powell's work is in every respect a safe and valuable work. It is issued in the well known publishers' best style.

An Illustrated Encyclopædic Medical Dictionary. Being a Dictionary of the Technical Terms used by writers on Medicine and the Collateral Sciences in the Latin, English, French and German languages. By F. P. Foster, M.D., Vol. IV with illustrations. New York: D. Appleton & Co.

The fourth and concluding volume of this great work is now issued. The work is certainly one of the great undertakings of the present time in literature.

In very many respects it represents far more than the name dictionary implies. The definitions are in many of the more commonly used terms very full and explanatory.

We are pleased to learn that there is a very general appreciation of the value of this great work in this country, as many medical men have become subscribers.

Publishers, editors and all connected with this great work deserve great credit. The result of their labour is a work which redounds to the credit of American enterprise and work.

The Year Book of Treatment for 1894. A critical review for practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1894.

The Year-Book of Treatment for 1894 presents the same excellent features characteristic of this work in the past.

The review of the work done in the therapeutics of diseases of the circulation is especially valuable. It is prepared by Mitchell Bruce, of London. Equally valuable is the work of Markham Skerritt on the advances of the therapeutics of diseases of the respiratory system. Although special mention is made of these two articles as being above the average, the remainder of the special articles fairly represent the work of the year.

Two new articles have been added to the present volume. The first of these, on the diseases of children, is mainly devoted to the artificial feeding of infants. The second on "Bacteriology in relation to treatment," by Dr. William Hunter, is devoted wholly to a discussion of the anti-toxine treatment of tetanus.

The International Medical Annual and Practitioner's Index. 1894. Twelfth year. New York: E. B. Treat.

This welcome annual publication more than maintains its reputation as a valuable work of reference for the practitioner. The special article on " Facial expression as one of the means of diagnosis and prognosis in mental disease," by Dr. James Shaw, is profusely illustrated and will prove to be of great practical value. Other monographic articles are on the examination of the ear, and on diseases of the eye.

In addition detailed reference is made to the special therapeutic literature of the past year.

Canadian Medical Literature.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian works published in other countries) for notice in this department of the JOURNAL.]

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Compound comminuted fracture of frontal bone and left orbital plate, with evulsion of eyeball—Recovery—A. M. Watson, p. 271.

Burns and scalds—Dr. Robinson, p. 275.

Pott's disease of the middle region of the spine--Its diagnosis and treatment—W. W. Bremner, p. 276.

Elimination and antiseptic treatment of typhoid fever—W. B. Thistle, p. 279.

Ontario Medical Journal, April 1894.

Perforation of abdominal viscera—Ernest Hall, p. 306.

Maritime Medical News, April, 1894.

Preventive medicine—T. C. Lockwood, p. 26.

Dominion Dental Journal, April, 1894.

Alveolar Hæmorrhage—G. W. Beers, p. 79.

Canada Lancet, April, 1894.

Epithelioma of the pharyngo-oral cavity invading the larynx—Constantine O'Gorman, p. 225.

Canadian Medical Record, March, 1894.

Proceedings of the Montreal Medico-Chirurgical Society, p. 127. (See also this JOURNAL.)

Dominion Medical Journal, March, 1894.

Some of the uses of sulphurous acid—H. Arnott, p. 63.

(1.) Dietary in typhoid fever—W. H. B. Aikins, p. 66.

Dominion Medical Monthly, April, 1894.

Pseudo-membranous anginæ with scarlet rashes—W. J. Greig, p. 95.

Atlantic City as a health resort—J. H. Burns, p. 98.

(2.) Clinical notes on two cases of fissure of the neck of the bladder—G. A. Bingham, p. 69

Separation of the pubic bones during parturition—J. A. Carbert, p. 71.

Plaster of Paris spica as a first application in hip disease —G. W. Bremner, p. 102.

A case of tubular phthisis cured—A. H. Garrett.

Journal of Physiology, Vol. XVI., No. 3 and 4.

(3.) On the absorption of iron in the animal body—A. B. Macallum, p. 268.

Canadian Practitioner, April 1894.

Case of vaginal hysterectomy—K. N. Fenwick, p. 239.

L'Union Médicale du Canada, March, 1894.

Hydrocephalie avec présentation du siège—J. B. A. Lamarche, p. 113.

Appendicite sub-aiguë—E. P. Benoit, p. 121.

L'Union Médicale du Canada, April, 1894.

Sur les trantismes des l'œil—A. A. Faucher, p. 169.

Les principaux éléments de succès en cœliotomie—A. Lapthorn Smith, p. 175.

Journal d'Hygiène Populaire, April, 1894.

Rapport du 21e Congrès de l'Association Américaine d'Hygiène Publique, 1893—E. P. Lachapelle et J. A. Beaudry, p. 347.

(4.) La consomption ; ce que l'on en connait aujourd'hui et moyens d'en prévenir la contagion, p. 362.

(5.) Report on tuberculosis in Ontario—P. H. Bryce, p. 52.

(6.) Tuberculosis—Bulletin No. 20, Department of Agriculture, Ottawa.

Dietary in Typhoid Fever.

(1,) Dr. Aikins points out how, during the last few years, the tendency has been to employ a more generous dietary in enteric fever. The dietary allowed to his last thirty-five typhoid patients has been attended by uniformly satisfactory results. It has not influenced the temperature unfavourably or prolonged the duration of its elevation, while the patients have appeared more contented than is the case where the diet is restricted. The bowels also have been much less constipated than when patients are fed upon milk alone.

The diet consists of a lightly boiled, scrambled or poached egg with bread and butter, milk in quantities agreeable to the

patient, broths, clear or thickened (oyster, chicken, mutton or vegetable) and at intervals during the day bread with meat gravy strained rice or sago pudding, custard, junket, milk toast, oysters on biscuit with a little wine. Patients are not given more than two eggs and eight ounces of bread in the twenty-four hours. He allows various fluids, besides pure spring and mineral water—barley water, lemonade, egg albumen, water, koumiss, cocoa, tea or coffee.

At the outset the patient is given a mild purgation, and throughout the illness a free operation of the bowels is secured by means of a small dose of calomel in the evening followed up, if necessary, by Seidlitz powders.

Fissure of the Neck of the Bladder.

(2.) The literature connected with the subject of fissure of the neck of the bladder is but small, hence Dr. G. Bingham's two cases are of not a little interest. In both, the condition, brought on by difficult labour, was associated with great loss of strength and of flesh, with frequency of micturition attended by great pain. Both patients were reduced to a low, nervous, hysterical condition. The diagnostic points relied on were: (1) A local tender spot with stabbing pain on pressure; (2) the drop or two of blood following the urine; (3) the history of a prolonged labour preceding the onset of the trouble. Treatment in one case consisted in performing a vaginal cystotomy, with removal of the granulation tissue found on the posterior surface of the neck near the middle line, and cauterization of the floor of the ulcer. In the other case the urethra was quickly dilated, until the little finger could be passed in—the bladder was washed out; this, with a belladona and opium suppository in the vagina and hot appliances over the bladder, constituted all the treatment. Both patients were relieved of pain and increased rapidly in weight.

Iron in the Animal Body.

(3.) Prof. Macallum's most original series of studies upon the iron holding constituents of the cells of the body, have led him to take up and throw light upon not a few problems of interest to the clinicians and pathologists, equally with the physiologists. The present paper deals with two allied questions —whether or not inorganic compounds of iron are absorbed,

and whether certain organic compounds are. When there is so much discussion as to the exact role played by iron in the treatment of chlorosis and other diseases, his results are peculiarly opportune. The process employed was that of micro-chemical examination of the intestinal mucosa of various animals before and after these were fed with various preparations of iron. The best method of investigation was found to be that of hardening the tissues in alcohol and then treating the collections by a mixture of equal parts of 0.5 per cent. of hydrochloric acid and 1.5 per cent. potassium ferrocyanide—a method which shows out the inorganic iron or albuminate of iron as so many granules of Prussian blue. By this method, as also by the employment of ammonium sulphide, Professor Macallum found that iron administered in the food—more especially the so-called ' peptonates ' of iron—are taken up by leucocytes which wander out between the columnar cells of the epithelium covering the villi. The reaction is confined almost entirely to the lips of the villi. There the leucocytes are found increased in great numbers. At the same time the epithelial cells covering the villi take an active part in the process. When a slight amount of iron is present within them, this appears to be diffused throughout the cells in a soluble form ; when greater amounts are present, then it is massed together in small granules, which Professor Macallum considers are of an albuminate of iron. Further, this iron collects towards the inner, fixed end of the cells, and is secreted and passed inwards to the underlying tissues in a soluble form, for the underlying elements yield frequently a deep homogeneous blue reaction. The further course of the absorbed iron would seem to be along two directions ; in part it is taken up by the leucocytes and so conveyed into the lymphatics and thus eventually to the blood, in part it passed in solution into the venules whose walls and contents give the reaction when large quantities of iron have been ingested for a lengthened period. By this means, therefore, much of the iron is carried by the portal circulation to the liver, where it can be detected either in a diffused or granular form in the peripheral cells of the lobules ; here then in the liver the iron is stored up. Some of the leucocytes containing iron may be found in the circulation, though rarely, and in the spleen pulp,

for while some leucocytes are conveyed along the lymphatics to the thoracic ducts, and so on to the systemic blood stream, most would seem to penetrate the walls of the portal venules, and to be conveyed to the liver, where large numbers of leucocytes containing iron may, under favourable circumstances, be found in the capillaries.

It was found that inorganic and albuminate compounds of iron are absorbed in all parts of the small intestines where the iron compound is not perceptible on mixture with bile and pancreatic juice. Ordinarily the extent of the absorbing surface is very limited, being confined to the lips of the villi in the immediate neighbourhood of the pylorus. The explanation of this peculiarity lies in the fact that the iron can only be taken up by the epithelium and the leucocytes in a soluble form, and that nominally this soluble iron salt of the chyme becomes wholly precipitated by the alkaline mixture of the bile and pancreatic juice. Above the openings of the ductus communis choledochus the chyme is usually acid or neutral, and here then absorption takes place. Albuminate of iron made according to Marfire's method is insoluble in weak acids, but soluble in weak alkaline solutions ; when this given to a guinea pig, the villi between the pylorus and the opening of the pancreatic duct gave no iron reaction, but from the pancreatic orifice to the cæcum the villi gave clear evidence of its absorption.

These experiments controvert the view, not infrequently expressed of late years, that iron salts are not absorbed, their good effect being due to a stimulation of the mucosa to greater physiological activity. Evidently they are absorbed, and if the administration of iron is of value in chlorosis and anæmia in general—and of this there can be little doubt—these observations point out the way whereby iron may be most freely introduced into the economy—either that is by the employment of compounds not precipitated by the alkaline contents of the small intestines, or (what is more difficult) by reducing the alkalinity of these contents. It would be well, could Dr. Macallum determine whether the cells of the gastric mucosa take up iron salts or no, for he does not take this point into consideration.

The observations upon the absorption of organic iron compounds belonging to the unclean or, as Prof. Macallam terms it, chromatin class are not so clear; nevertheless evidence was discovered of the absorption of that present in egg-yolk in the instestines of the guinea pig and of *amblystoma*. In these, after they have been fed with egg yolk for several days, the substance of the liver cells yields marked evidence of the presence of an organic iron compound belonging to the "chromatin" class and derived from the yolk given as food.

Tuberculosis.

The increased interest taken in the prevention of tuberculosis is evidenced by the circular issued by the Board of Health for the Province of Quebec, (4) and the statistical report of Dr. P. H. Bryce (5), the former consisting of a popular summary of the modern views on tuberculosis, together with some sensible advice as to how the danger of contagion may be prevented. We find that the statistics on the subject obtained by the Board of Health for the Province of Quebec, show for the last sixth months of 1893 a death rate from tuberculosis of 1,286, out of a total of 15,785 deaths registered, or about 8 per cent.

The population of Quebec may be estimated for 1893 at about 1,527,000, which would gives an annual death rate from tuberculosis of 11.9 per 10,000 living as far as can be judged from returns covering half a year only.

In Dr. Bryce's report the deaths reported from all forms of tuberculosis in 1892 were 2724, of which 2592 were registered as having been due to phthisis. Although this estimate includes deaths from tabes mesenterica, hydrocephalus and other tubercular diseases, it is believed by Dr. Bryce to be far below the truth, and from calculations upon the statistics of Gärtner, Wahl, Hiller and others he obtains a theoretical death rate from tuberculosis in Ontario of 9,418. Without criticising this plan of calculating death rates, we may point out that, Ontario, with a population (estimated) of 2,146,020 for 1892, had an observed death rate from tuberculosis of 12.07 per 10,000 living, and a theoretical one of 43.9, so that in addition to all the registered deaths from the various forms of tuberculosis, recognized during life, there remains an unde-

tected yearly mortality from this cause amounting to 31.83 per 10,000 living—a state of affairs which may be sufficiently disquieting if true.

Leaving aside this hypothetical death rate, it is interesting to note that the observed mortality from tuberculosis in Ontario and Quebec are identical, and the disease is one-third less frequent in Quebec and Ontario than in England with 17.1 per 10,000, or the United States with 16. per 10,000. Dr. Bryce's report also contains interesting statistical information about the prevalence of tuberculosis among cattle.

(6.) It has been known for some years that tuberculosis existed among the stock of the Experimental Farm, and it was thought that animals sent to various parts of the country for breeding purposes had become the means of spreading the disease in localities where it had not existed previously. The herd has been thoroughly tested by injections of tuberculin, with the result that, out of 54 animals tested, 26 have given the reaction showing the presence of the disease, while 28 may be regarded as sound and healthy. The diseased animals (with the exception of five heifers isolated and reserved for therapeutic experiments with tuberculin) have been destroyed. The animals sent to the branch farms have not yet been tested with tuberculin, but are supposed to be healthy. The experiments were conducted by Prof. Wm. Saunders and Mr. J. W. Robertson.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 23rd, 1894.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Dr. David B. Alexander was elected an ordinary member.

Talipes Equino-Varus.—Dr. BELL brought before the Society a man from whom he had removed the greater part of the tarsus for talipes equino-varus. The patient, a farmer, 47 years of age, had not suffered any great inconvenience up to seven years ago, being able to walk fairly well on the outer side of the dorsum of the foot. At that time a large bursa which had developed over the dorsum of the right foot became inflamed and suppurated. Since then sinuses had persisted and he had not been able to walk with any degree of comfort, and has been frequently under treatment. In January last he came to the Montreal General Hospital for the purpose of having the bursa treated, but as in all probability the disease had extended down to the tarsal articulations, the more radical operation of tarsectomy was advised. After some hesitation he submitted to this operation for the correction of the deformity. At the operation, the astragalus was first removed, then the scaphoid, then a small portion of the head of the os calcis, then the cuboid and finally to make the correction complete, the tip of the external malleolus and portion of three cuneiform bones were removed. Unfortunately a case of erysipelas had been operated upon on the same table half an hour before, and though every precaution had been taken to disinfect the surroundings, the patient contracted that disease. This prevented splints from being applied in the usual way, so that there is a little more turning in of the foot than usual, but the result is very satisfactory, almost perfect.

Talipes Varus.—Dr. BELL showed a young man, twenty-one years of age, upon whom he had operated for this condition. The patient had been for several years incapacitated for hard work, and lately had been unable to work at all. The left foot was very much worse than the right. Five weeks ago an osteotomy was performed above the ankle joint, turning in the foot and correcting the deformity. The object was to bring

the centre of gravity down through the centre of the foot instead of through the inner border.

The difference between the two feet when seen from behind was very well marked.

This operation was introduced by Trendelenberg a few years ago, and has practically superseded all others for serious cases of flat foot, which for one reason or another cannot be treated by appliances. Trendelenberg had observed that in certain cases of Pott's fracture, when care had not been taken to correct the deformity at the time of the accident, a condition resembling flat-foot had resulted. These cases he treated by osteotomy, and subsequently he extended the operation to cases of flat-foot.

Multiple Fracture of the Pelvis and Fracture of the Femur.—Drs. KIRKPATRICK and WILLIAMS presented a mounted specimen which consisted of the pelvis, the last lumbar vertebra and the upper half of the left femur. In the sacrum a fracture extended from the right ala at the auricular surface, which shows numerous splintered fragments, through the five right foramena to the transverse process of the first coccygeal vertebra. On the left side the bone showed many small splinters and incomplete fissures, especially on the anterior surface, extending in the same manner as far as the fourth lateral foramen. The left inferior articular process of the last lumbar vertebra is also fractured. On both sides the superior rami of the pubis showed transverse comminuted fractures. At the junction of the rami of the pubis and ischium on the right side and through the ramus of the ischium on the left are transverse fractures. The left inferior ramus of the pubis also shows an incomplete transverse fissure on its anterior surface. The left femur sustained a transverse comminuted fracture at about the centre of the shaft.

The man from whom the specimen was obtained was employed in excavating earth, when a large mass (400 lbs.) of frozen earth and shale fell on his side and thigh, crushing him to the ground. Four men lifted the mass and carried him to a bench. He was conscious, and after recovering from the primary shock was able to sit up; he said that his left leg was broken. Death occurred two hours later from shock or nervous injury, not from hæmorrhage.

Stated Meeting, April 6th, 1894.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Compound Depressed Fracture of the Occipital Bone.—Dr. BELL exhibited a boy, aged six, who in August last had fallen into an excavation and had sustained a compound depressed fracture of the left occipital bone. He was seen a few minutes after the accident by Dr. Grant Stewart, who observing that he was rapidly falling into a condition of coma sent for Dr. Bell, who had him taken to the Montreal General Hospital, where he operated. After shaving the head he proceeded to elevate the depressed portions of the bone, the edges being chiselled away, so as to make an elliptical opening, half an inch in the short and one inch in the long diameter. The dura mater was torn and a large clot (about four ounces) was found lying upon the brain, but no active bleeding was discovered. Up to this time no anæsthetic had been given, but it was found necessary to administer chloroform to finish the operation. The boy made an uninterrupted recovery and was discharged about six weeks after. Since his return home his mother has noticed deafness in the left ear, some uncertainty about his gait, and incontinence of urine during sleep which condition did not exist before the examination. No examination of the ears had been made.

Penetrating Bullet Wound of the Brain in the Left Frontal Region.—Dr. BELL also exhibited a little girl, aged 5 years, who, while playing, had become possessed of a loaded twenty-two calibre English revolver, which she had accidentally discharged while resisting the attempts of an elder sister to take it from her. Dr. Hutchison saw her shortly afterwards and sent her soon after to the Montreal General Hospital, where she was given chloroform and the wound exposed. The bullet had penetrated the left frontal region, three-quarters of an inch to the left of the middle line and the same distance above the supra orbital ridge, going completely through the skull, causing a circular depressed fracture of about a quarter of an inch in diameter. The outer fragments of the bone were removed by forceps and the wound enlarged with a chisel. Forceps were then passed in carefully along the track of the bullet, and several spicules of bone removed from a depth of

two inches in the brain substance. Blood clot, pieces of broken down brain matter and fresh blood were also removed, when on passing the forceps in, the bullet could be distinctly felt at a distance of two and a half inches from the surface; several attempts were made to grasp it, but failed, and considering the region in which it lay, near the anterior cornua of the ventricle, Dr. Bell concluded that the risks involved in persevering in attempts to extract it were two great; therefore, after carefully cleansing the wound, a glass drain was inserted directly into the brain substance and kept in for seventeen days, being shortened on two different occasions. For the first four days the temperature oscillated between 90° and 100°, but afterwards remained normal. The child made an uneventful recovery and was discharged on Feb. 26. From the time she left the Hospital she has been absolutely well and is now going to school. Dr. Bell recalled a similar case which he had reported to the Society in the session of 1879-1880, of a man who deliberately shot himself in the temple and from which the bullet had never been removed. This patient died of phthisis two years later, and at the autopsy the bullet was found lying within half an inch of the falx cerebri.

Dr. Proudfoot, having made a cursory examination of the boy, found that the watch placed against the child's ear could be heard distinctly, whereas if it was removed the slightest distance, the sounds could not be heard at all. Whether this was due to conduction through the bones he could not say, but apparently the nervous portion of the ear was all right. He suggested that the difficulty in hearing might be accounted for by a catarrhal condition of the middle ear brought on by wet dressings, and which would disappear on treatment.

Dr. Hutchinson had seen the second case, the girl, half an hour after the accident had occurred. The child did not show any symptoms of brain injury. He put her under chloroform, examined the wound, and having found that the bullet had entered the brain, concluded to send her to the Hospital. He saw her again after her return from the Hospital, and the mother now states that she is even more precocious than before the accident.

Pulmonal Cerebral Abscess.—Drs. Adami and Finley. (See page 812.)

Remarks.—Dr. James Stewart remarked that although there were plenty of opportunities for examining the case, a diagnosis during life had not been reached. The symptoms were not at all characterized, being simply those of an acute brain lesion causing pressure. He thought Dr. Adami's explanation was the correct one. Articles have lately appeared in the British journals pointing out the frequency with which acute central lesions and acute peritonitis were brought about by this organism. At the present time in the Victoria Hospital there is an instance of a suppurating arthritis following pneumonia, and in which the pneumococcus has been found in the joint.

Dr. Gunn had first seen the case referred to by Dr. Stewart in the outdoor department of the Victoria Hospital, and found an area of dulness over the middle of the right lung in front, rather small in proportion to the attendant temperature, which remained in the region of 104° for first 3 days. After entry to Hospital a well marked crisis had occurred and temperature remained normal for three days, when he developed a violent chill and showed all the signs of some acute infection or relapse. The following day a swelling developed in the cellular tissue of the left upper arm behind, showing a characteristic erysipelatous appearance, which subsided gradually, and 4 days after all fever had gone, there was another chill and rise of temperature. This time the knee joint on the right side and the left shoulder became very painful, tender and swollen, and on examining the contents a characteristic pus, not decidedly green, but rather of a milky nature, was found. The microscope showed nothing but diplococci with the capsules well marked. Bouillon cultures, however, did not show characteristic diplococcus growth, but rather that of a streptococcus. The examination is not complete—no inoculation having been made.

Dr. Gunn asked if in Dr. Adami's case any other micro-organisms were found and if inoculation had been made.

Dr. Mills wished to know whether the arteries of the brain in Dr. Adami's case had been examined, and whether steps were taken to exclude emboli or ordinary forms of brain softening in the diagnosis.

Dr. Adami stated that abscess of brain with general signs of inflammation in the surrounding tissues were not caused by simple emboli alone.

Gall Stone.—Dr. Bell exhibited a specimen which, though only an ordinary gall stone, had a clinical history of especial interest. On Wednesday last he had been called into the country to operate on a patient supposed to be suffering from appendicitis. She was an unmarried woman, fifty years of age, and although a dyspeptic for many years, which she attributed to the loss of her teeth, she never had a day's real illness in her life. On the previous Friday she began to suffer from pain about the right hypochondrium; her physician saw her on the following Monday and found her suffering from great pain on the right side of the abdomen. Slight vomiting, normal temperature, and pulse about one hundred. The vomiting persisted all that day and night. Next day vomiting had ceased and morphia was given for the pain, but towards evening of the following day, her temperature rising to 99.5°, her physician grew anxious, and upon making an examination found a resisting mass to the right of the umbilicus and extending up to within an inch of the lower ribs on the right side. Dr. Bell found an area of dulness and resistance extending along the right linea semilunaris upwards to a finger's breadth below the lower border of the ribs and downwards to an inch and a half below the umbilicus. Along the outer border of the mass at the so-called McBurney's point, there was special tenderness, although tenderness existed more or less all over the area of dulness. While concurring in the diagnosis of appendicitis, Dr. Bell felt that the symptoms might possibly be due to other causes such as suppurating gall-bladder or some extravasating condition about the stomach, and hesitated to operate in the country. The patient came to Montreal and entered the Royal Victoria Hospital, when on further examination he had almost made up his mind that the case was one of appendicitis. Upon opening the abdomen, however, he found a very much distended gall-bladder, very red and with friable walls. Upon making a puncture an ounce of clear fluid escaped, then turbid fluid and lymph, and finally, about an ounce of pus. The stone was found to be impacted in the orifice of the cystic duct, from whence it was dislodged with great difficulty.

This case, though one of ordinary gall-stone, simulating as it did so closely an appendicitis, is of more than passing interest to the surgeon who is now-a-days so often called upon to operate for appendicitis. The stone was an inch in length, three-quarters of an inch in breadth, and half an inch in thickness, being somewhat oval and slightly flattened, and has truncated extremities, one of which was directed into the cystic duct and the other into the cavity of the gall-bladder.

MONTREAL CLINICAL SOCIETY.

Stated Meeting, January 6th, 1894.

JAMES JACK, M.D., PRESIDENT, IN THE CHAIR.

Compound Comminuted Fracture of Humerus at Elbow Joint.—Dr. W. F. HAMILTON brought before the Society a boy whose left elbow joint had been crushed by a cart wheel passing over it on August 30th last.

On enlarging the wound he had found the line of fracture to be V shaped, the apex downward between the condyles, both of which were broken off from the shaft. In order to bring the ends properly together he had been compelled to resect $\frac{3}{4}$ of an inch of the shaft. The condyles were then sutured to the shaft by means of two silk sutures. After a drain of moist iodoform gauze had been inserted and the skin wound sutured, the arm was put up in an anterior card-board splint in the semi-prone position. It was dressed on the 14th and 17th days. Passive motion was started on the 25th day, the patient being discharged on the 30th day. The arm was $\frac{3}{4}$ of an inch shorter than the right. There was fair power of rotation, flexion and extension being limited.

Remarks on the case were made Drs. Allan, Morrow, Tatley and England.

Post Puerperal Tubercular Pneumonia.—An interesting case report on this subject was presented by Dr. ENGLAND.

The patient IV. Para., aged 29, was confined on Oct. 16th. The labour was easy and the convalescence all that could be desired till the 12th day. On that day she suffered from severe headache, and her temperature was found to be 103° ; pulse, 120 ; respiration, 32. The abdomen flaccid and the lochia normal. Examination of the chest revealed the presence of subcrepitant rales in the right infra-clavicular region. No dulness. Three days later cough began and dulness could be made out in the above area. This condition gradually extended till the whole lung was involved, and a patch of dulness appeared in the axillary region of left side, with some evidence of pleurisy. The expectoration was extremely scanty and it was only with difficulty enough could be obtained for a microscopical examination, which revealed the presence of large

numbers of bacilli tuberculosis. Death resulted five weeks after the onset of the symptoms.

Dr. England referred to the difficulty of diagnosis in these cases, and believed they are of much more frequent occurrence than is commonly recognized.

An interesting discussion followed the reading of the paper. Several members mentioned having seen cases of the same kind where the disease had afterwards become chronic and the patient lived for years.

Malaria in a Child Fifteen Months Old.—Dr. Orr had met with the case during the Summer. The child had been taken by its parents to an American seaside resort near New York, where the disease had been contracted. The type was tertian, a definite cold stage being followed by high temperature, profuse sweating and exhaustion. Diagnosis was rendered certain by the fact that quinine completely dispelled the attacks.

Dr. C. W. Wilson then showed a series of photographs of a child aged 8 years, on whom he had performed a simple osteotomy for rachitic deformity of the tibia, with very satisfactory results.

After the discussion of some general business the meeting adjourned.

Stated Meeting, Jan. 20th, 1894.

James Jack, M.D., President, in the Chair.

Death from Rupture of a Vessel in the Pia Mater.—Dr. Martin showed the brain from a man aged 62 years. While walking in the street the patient had fallen unconscious and had been removed to the hospital, where he died in a few hours. Post-mortem revealed general arterio-sclerosis, fibroid spleen, interstitial nephritis and a pneumonic condition of the left lung. On opening the skull a large quantity of blood and clots were found in the sub-dural space; the source of the hæmorrhage being a ruptured vessel in the pia. A small cyst the size of a pea was found in the corpus callosum with a patch of white softening just below it.

Dr. Martin showed some specimens from a child, aged 4 years, who had died suddenly while in apparent good health. The glandular system generally showed evidence of marked

hypertropy. The brain was hyperæmic. The microscope showed no evidence of tumour formation in the glandular enlargements, and he was at a loss to account for the condition.

Dr. CAMERON mentioned that scarlet fever had been in the family some weeks before. The child had suddenly become unconscious and died before he reached the house.

Dr. BROWN suggested that the child had died from the poison of scarlet fever overwhelming the organism, and mentioned having met with similar cases during the present epidemic.

A Case of Tonsillitis.—Dr. TATLEY presented the report of a case of tonsillitis with erythema. The fact that even with considerable force there was no exudation on the enlarged red tonsils and the presence of the rash led him to diagnose scarlet fever, but the next morning the rash had faded, the temperature was normal and the throat symptoms much improved, so he came to the conclusion he had to deal with a rheumatic tonsillitis.

The discussion which followed was taken part in by nearly every member present. Some held that the case had been one of mild scarlet fever, others favored a diagnosis of grippe, while many sided with Dr Tatley.

After some matters of business had been attended to, the meeting adjourned.

Stated Meeting, Feb. 3rd, 1894.

THE VICE-PRESIDENT, DR. SPRINGLE, IN THE CHAIR.

Appendicitis.—Dr. SPRINGLE presented an interesting paper on this subject. He condemned very strongly expectant treatment, and held that surgical procedure should be adopted as soon as a diagnosis could be arrived at, the earlier the better the chance for success.

Dr. MORROW—Considered that Dr. Springle looked on the subject from an ultra-surgical point of view. He wished to uphold the medical treatment of appendicitis. The treatment by purgatives he considered to be irrational. The formation of adhesions about the inflamed appendix was to be encouraged, and he considered starvation and opium met this indication. But a small proportion of the total number of cases of this

affection ever require that a surgeon should be called in consultation.

Dr. Gunn was of the opinion that Dr. Morrow had swung too far over to the medical side of the question. He desired to take his stand about half-way between the two previous speakers. He mentioned a case that had recently come under his observation where after treatment by opium etc., had procured marked alleviation of symptoms, a rather rough examination of the abdomen caused a recurrence of the symptoms to such an extent that an operation was resorted to. The appendix was found to be in a state of simple catarrhal inflammation.

Dr. Brown dwelt on the various and sometimes very unex pected site of pain in these cases. Mentioned a case where disease of the appendix manifested itself a few days after confinement, rendering the diagnosis from septic infection very difficult. He thought opium should be resorted to at first, and if marked relief did not follow in 8 or 12 hours he would advise operation.

Dr. Campbell thought the risks of opening the abdomen still were sufficiently great to contra-indicate an operation where the symptoms have been very mild.

Dr. Springle, in reply, stated that mortality when operation was performed early was almost nil. As one cannot be certain of the condition of the appendix from the symptoms manifested he considered operation advisable to ascertain this, and if markedly diseased, its removal was imperative, while if found healthy or only slightly affected, its removal gave the patient relief from a constant menace.

The hour being late, the other items on the programme were postponed to the next meeting.

Stated Meeting Feb. 17th, 1894.

The President, Dr. Jack, in the Chair.

Dr. Hackett showed a piece of stone, about 5 c.m. long by 2.5 c.m. in width which he had found in the stomach of a subject in the dissecting room at Bishops College. The subject had come from Longue Pointe Asylum. Two large renal calculi were shown by the same gentleman, he having found them in another subject from the same institution.

Notes on Some Complications and Sequelæ of Influenza.—Dr. ALLAN presented a short interesting paper on the above subject. He followed Dr. Althaus' classification of the various manifestations following an attack of influenza. Neurasthenia, hypochondriasis and melancholia were the most common forms of nervous disorders manifested. He mentioned having met with several cases of more or less severe neuritis as a sequel to influenza. Quinine alone or in combination with antifibrin has proved of great value in the treatment of these cases.

Drs. Campbell, Blackader and Cameron then discussed the paper, mentioning several cases that had come under their observation. Their experience coincided with that of Dr. Allan.

Ptomaine Poisoning—By Dr. Vipond. (See page 739 of the April number.)

A Rare Form of Stomatitis with Cutaneous Complications.—Dr. HAMILTON then read a very interesting case report on the above subject. (See page 741 of the April number.)

Dr. CAMPBELL then showed two pulse tracings he had obtained from a case of scarlet fever where nephritis had come on two weeks after the fever. The tracings showed the high tension, irregularity and intermittency of the pulse very clearly. The condition lasted six days, and the child made a good recovery. Henoch mentions the condition as being somewhat rare.

After a few remarks by Drs. Vipond and Blackader the meeting adjourned.

Selections.

Bread Substitutes in Diabetes.—Saundby (*Birmingham Medical Review*, May, 1893), says :—There is no greater difficulty in the management of a case of diabetes than the provision of an acceptable but harmless substitute for bread ; and, although there is no lack of articles which pretend to supply this want, they vary considerably in their mode of preparation, and some, as was pointed out by the *Lancet* last year, are neither more or less than frauds. The writer has given up the use of gluten bread because (1) the best contains nearly thirty per cent. of starch ; (2) it is very unpalatable, and (3) it is very expensive. He states that there are many cases of diabetes in which it is absolutely necessary to stop the supply of starch as well as sugar, and where it is important to use a substitute which contains no sugar or starch at all. For this purpose he recommends Clark's Starchless Biscuits, which are specially manufactured in West Brighton, Sussex. For those who are unable to obtain these biscuits, cakes made from ground almonds form an excellent substitute. The directions for making them are as follows : Take one pound of ground almonds, four eggs, two tablespoonfuls of milk, and a pinch of salt ; beat up the eggs, and stir in the almond flour ; divide in twelve flat tins, and bake in a moderate oven for about forty-five minutes. The weight of the cake will be about one and a half pounds.

As a substitute for these ground almonds, cocoa-nut cakes may be made as follows : Take three-fourths of a pound of the finest dessicated cocoa-nut, one quarter of a pound of ground almonds, six eggs, one-half a teacupful of milk ; beat up the eggs, and stir in the cocoa-nut and almond flour ; divide into sixteen flat tins, and bake for twenty-five minutes in a moderate oven. The weight, when baked, will be one and a half pounds. Two additional eggs may replace the milk with advantage, but they would increase the cost slightly. These ingredients are within the reach of the poorest patients. The cakes keeps well for a week. They may be sweetened, if desired, with glycerine or saccharine.

Iceland moss forms a palatable article of diet, and may be

made into a pudding, which diabetes appreciate very much. It may be made absolutely free from anything harmful to them.

A Case of Tumor of the Thalamus Opticus.—A. L., aged eighteen. Father died of phthisis. The earliest symptoms of his present illness appear to have been peculiar paroxysms in which there was first an olfactory sensation of some kind, and then a sense of bewilderment, followed by headache. These attacks were first observed in May, 1890, and recurred from time to time for several months. Since these attacks first appeared there has been more or less headache, not constant, and, probably, for the largest part not severe. He has had occasional attacks of sudden vomiting, usually not preceded by nausea. For a few months there has been a degree of right hemiparesis. A month ago he spoke of double vision and then of impaired vision. Within a week it was found that there was blindness in the left eye, left hemianopsia in the right, and choked disc in the latter eye only. The patient has been in bed one month, and a degree of hebitude has been noticeable.

Status, November 15, 1892.—Patient is pale, rather poorly nourished, lies quietly in bed, answers questions clearly, but does not speak unless spoken to. The nurse says he lies thus all day, makes no complaints, and gives no manifestations of suffering. He sleeps fairly well. Pulse 60 per minute, fair volume; tongue slightly coated; tremulous. When asked says he has pain in the back of his head. No localized tenderness over the skull. There is paresis of the muscles of the right side, that is, of the face, and upper and lower extremities. In the face the paresis is more noticeable in laughing than in voluntary acts, like showing the teeth. There is paralysis of the right abducens. The other lateral movements of the eyes are somewhat restricted; when the eyes are turned to the left there is slight nystagmus in the right eye. No apparent impairment of cutaneous sensation. The sense of smell is less acute in the left nostril than the right, the sense of hearing less acute in the right ear than the left. Left eye blind or nearly so (blinks when eye is struck at). With the right eye he sees objects only when in the outer half of the field of vision; even

here vision is very imperfect. No effort was make to outline the visual field, which the mental condition and imperfect vision would have made futile. Left optic disk was quite normal in appearance; the right presented a very pronounced choked disk. The urine had a specific gravity of 1012, an acid reaction, and contained neither albumen nor sugar.

Of the history subsequent to my visit I can only say that he soon became altogether blind, that he gradually failed in strength, never had convulsions, and died January 25, 1893.

The following is the report of the post-mortem examination kindly sent me by Dr. S. W. Holloway:

"On lifting the skull-cap the dura was found to be congested, the bone normal. On removing the brain the membrane was adherent at the anterior portion and to the right of the middle fossa The pia was intensely congested and reddened, at some places slightly thickened, under which was a milky fluid, moveable on pressure. Cephalorachidian fluid slightly increased. Entire brain somewhat œdematous

"On opening the descending horn of the left lateral ventricle there appeared a mass projecting from below upwards into the cavity of the ventricle. On turning the brain over this mass proved to be the left thalamus opticus. On cutting into it it seemed to the unaided eye to be a glioma, a jelly or glue-like mass, filled with numerous small red spots, like grains of red pepper, probably minute hemorrhages into the friable new growth. The latter occupied the posterior portion and base of the left thalamus, replacing the normal structure of this body, and measuring one inch in its long axis, by one-half inch across. It had no capsule, but merged gradually into the surrounding tissue."

"Nothing else of importance was noticed at the examination."

But little is known of the physiology of the thalamus. Its lesions are sometimes latent; again, the symptoms produced are due to direct or indirect involvement of other parts. In this case, though the lesion was apparently limited to this ganglion, the symptoms were mostly not directly due to its injury. But one symptom is, probably, directly due to the lesion of the thalamus, and therefore, an expression of its physiological function, and to this symptom, which has rarely been

observed, I wish to call special attention. I refer to the observation that the facial paralysis was more marked in the act of laughing than in the voluntary act of showing the teeth. Nothnagle, in his classical work. *Topische Diagnostik der Gehirnkrankheiten*, makes the hypothesis, though he has no direct observations on which to base it, that the thalamus controls the expression of the emotions. Subsequently, Bechterew, in his experiments on animals, found that destruction of the thalamus caused no paralysis of voluntary muscles, but the animals were unable to give expression to their emotions; while lesions on some parts of the motor tract, but not involving the thalamus, caused hemiplegia, but in no way interfered with the expression of the emotions. Very few observations of this kind in man have been made, for which reason I wish to give special prominence to the symptoms in this report.

Another symptom to which I wish to call special attention is the choked disk in only one eye. This is also rare; if found at all we usually find double optic neuritis. Has this symptom any local significance, that is, as to the seat of the brain tumor? I recall having seen but one similar case, one of Hughlings Jackson, in London. In that case the tumor was on the side of the brain opposite the neuritis. This was also true of the case just reported, the tumor being in the left thalamus, the neuritis in the right eye. Does this symptom, then, signify that the tumor is situated on the opposite side of the brain?

Optic neuritis frequently causes no impairment of vision. That fact was easily demonstrable in this case, where the eye, with a normal optic disk, was already blind, while there was still vision in the one with optic neuritis. I have frequently had occasion to call attention to the fact that rapidly setting-in blindness, in cases of brain tumor, has a local significance; that is, that the tumor is so situated as to cause effusion into the ventricles. In this instance the blindness was probably due to pressure on the optic tracts by the distended third ventricle. That vision was longest retained in the nasal segment of the right retina was doubtless an accident, due to the manner of that pressure. The thought might occur that the hemianopsia (in one eye) was from the disease in the thalamus,

for the optic tract, in part, terminates in that ganglion. (The optic tracts terminate—or have their origin—in the posterior part of the thalami, the anterior corpora ulate bodies, but to the largest extent in the latter.) To what extent a lesion of the thalamus, in itself, might produce such a symptom, is not yet known, but that it did not do so in this instance is manifest, for vision was longest retained in the left half of the retina, the part that should be in relation with the affected thalamus.

The motor symptoms are, doubtless, altogether indirect ones ; the hemiparesis from pressure upon some part of the motor tract, the paralysis of the abducens from pressure upon that nerve (compressed between its bony bed and the distended dura at some point.)

When I saw the patient I supposed the olfactory manifestations, the peculiar paroxysms at the beginning of the disease, and the slight impairment of sense of smell in the left nostril, had some special significance. But the post-mortem examination did not throw any light on that point, and these symptoms (their history was not altogether clear), as well as impaired hearing in the right ear, may have been related to a nasal catarrh, for which the patient had at one time been treated.

Finally, I will merely refer to the absence of intense headache, and its connection with the location and manner of growth of the neoplasm, which only to a slight extent produced irritation in the sensitive dura.—Dr. Philip Zenner, in the *Cincinnati Lancet-Clinic*, July 22, 1893.

An Observation of the Effects of Erysipelas on Epithelial Cancer.—About eighteen months ago my attention was called by Mr. M. to an ulcer nearly opposite the ear, on his right cheek. This ulcer was ne and a half inches in longest diameter, one inch in the shorter, presenting an oval with irregular edges. The discharge was slightly purulent, tinged with blood. The granulations were soft and bled on the slightest touch.

Mr. M. stated that twenty years ago there appeared at this point a small elevation, which frequently formed a scab, which every ten or twelve days would fall off and then re-form, giving but little trouble and received but little treatment.

Nineteen years ago he was treated for a time with ointments and lotions, also some medicine was administered without special benefit. He was assured that this was skin cancer and incurable. The ulcer gradually increased in size and depth. Some benefit was derived from a lotion of zinc sulphate and salt, dissolved in water to make a mild astringent solution. The ulceration, however, continued giving inconsiderable pain, but much annoyance by its presence. The good man quietly accepted the situation, seeking only palliation and relief from pain.

About November 12 he suffered from an attack of erysipelas of the face. This ran no unusual course, spreading rapidly from tip of nose over scalp to nape of neck. The efflorescence was followed by disquamation. The external dressing was of ichthyol and lanolin, which seemed to give relief and comfort.

As the erysipelas faded out, the desquamations following the ulcer seemed to assume a more healthy appearance. Granulations of a more normal character developed and in about two weeks the ulcer was entirely healed. The cicatrix on March 1 is slightly indurated, but smooth and firm, presenting the appearance of normal cicatricial tissue.

The case is reported without special comment. Dr. Coley, of New York, has written on this subject with considerable interest.

The writer is well aware that a single case from the practice of a surgeon is but of little value, isolated and alone, but hoping that others may add their experience and observation the case is reported for consideration.—Dr. James Collins in the Philadelphia *Times and Register*, April 28th, 1894.

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A NATIONAL BUREAU OF HEALTH FOR CANADA.

The movement in favour of the establishment of a National Bureau of Health for the United States, which is one of the practical results of the "cholera scare" of 1892, seems to be gaining ground rapidly. A bill has been introduced in Congress to enable the national executive to create a bureau which, without interfering with or hampering the action of the local health boards, shall support, and co-ordinate their efforts and so make their influence greater. Except in matters of quarantine and vital statistics, the duties of the new bureau are intended to be largely advisory, but the benefit of some such central organization must be apparent to all. There is every prospect that this bill will soon become law.

We take this opportunity of urging the necessity of Federal legislation of this nature being enacted in Canada. For some occult reason, at the time of federation all jurisdiction in sanitary affairs with the single exception of quarantine, was completely relegated to the provincial governments, who in their turn ceded all these powers to the municipalities. That this policy of shifting the responsibility was a most short sighted one is shown by the fact that before long it become necessary to create provincial health boards to watch over and stimulate the municipal boards; a duty which has been done on the whole admirably, and which has prevented localities suffering from infectious diseases from inflicting them unnecessarily upon their neighbours.

There is, however, a very evident need of some higher

central authority to ensure greater uniformity of action among the provincial boards and the duties of a National Medical Bureau need not be limited to the regulation of infectious diseases. In the matter of vital statistics, for example, the necessity of some uniform system of obtaining and utilizing information cannot be disputed and in order to obtain this information a uniform system of death certification is indispensable. If each province uses a different system of classification, and obtains its information by divergent methods, comparison of the results becomes difficult or impossible. In dealing with epidemic diseases, there is the greatest necessity of the various provinces keeping in touch. The medico-legal side of criminal law and questions of medical education could also receive attention from such a medical bureau of health. In Germany, France and Denmark, and to some extent in England, the National Health Bureaus are great centres of medical and hygienic investigation, whose publications are among the most important which we possess. The same might be the case in Canada, if a Federal Health Office were established, which should be not a mere advisory board, but an organization with well equipped laboratories, conducted in the same manner as the Dominion Experimental Farm or the Geological Survey. Reliable experiments with stock, seed, plants, dairy processes and agricultural interests of all kinds are constantly being made at the former institution, while by means of the latter the mineral wealth of the country is rapidly becoming known. In sanitary work, on the other hand, every health board is obliged to find its own way by the light of bitter experience, without guidance and without aid.

We have ministers and departments for pretty nearly everything except public health, and yet in the health of a country lies the essence of its prosperity. We have doctors galore in both federal and local parliaments, nearly fifty in all, and surely it is their duty to obtain some suitable sanitary legislation.

We are glad to see that a move has been made in the direction of centralization in the appointment of a Dominion Superintendent of Quarantine, and this office might be made the nucleus of a department which would regain the ground lost when sanitary affairs were released from the national control

at the time of federation. We learn of preliminary steps towards establishing a Dominion Bureau of Vital Statistics. Reference to some of the vital statistics, obtained by census methods shows clearly the necessity of such information being obtained by some more reliable means than those at the disposal of the census enumerators. We venture to think that if the medical profession, through the various health boards and scientific societies move energetically, their action would soon result in the formation of a Dominion Board of Health.

PROPRIETARY MEDICINES.

The " patent medicine man" is fast becoming a nuisance in the land where he has long been a power. He gets up an alleged medicine for the healing of the nations, and straightway goes forth to visit all the doctors. He presents them with sample bottles, he tells them what is in these bottles, being careful to suppress the quantities and the exact composition, at the same time impressing them with the important fact that no one else can prepare this medicine, either for want of skill or want of materials or apparatus. Finally he insinuatingly requests, as a return for the amount of the doctor's time that he has wasted, the small favor of a testimonial setting forth the merits of the preparation and its extreme usefulness in various diseases, and the wearied doctor hesitates and is lost. To get rid of his persecutor he signs.

This has been glaringly exemplified in a recent case, so much so that the Montreal Clinical Society, at its meeting on April 7th, passed the following resolution :

" That it is reprehensible for members of this Society to give certificates, which may be published in the medical or lay press or in pamphlet form, attesting the efficacy of any preparation, of which the *ingredients are known*, compounded by any firm of manufacturers who claim to be the only ones capable of preparing the said combination, either from the possession of superior apparatus or extraordinary chemical skill, or from any other reason.

" Such certificates only further the selfish ends of the manufacturer, and no special benefit accrues therefrom to the practice of scientific medicine.

"But should the members of this Society consider that such a preparation is of value, they are at perfect liberty to further its use, by prescribing it for their patients."

Why should members of the medical profession lend themselves to the manufacturers and without money and without price help on the sale of some preparation, for the composition of which there is no standard, and consequently no guarantee that it always contains the same proportions of the ingredients or even the same ingredients.

We ask all our readers to carefully think over the resolution, and when next the agent comes for a certificate, politely but very firmly decline.

A SENSIBLE CORONER LAW.

The following recent addition to the laws of Georgia, designed to remove the abuses of the coroner system there, though it has only been a short time in operation, has been found to work very satisfactorily, and has reduced the expenses of the office one third. It was drafted by Judge Wm. Eve, of Augusta, Ga., and passed in 1893 by the State Legislature.

"*Section* 1.—Be it enacted that in counties having a popu-
"lation of 40,000 or more, and not having any other officer
"appointed for the purpose: upon recommendation of the
"grand jury, the officer charged with the management of
"county affairs may appoint for one year, at a compensation
"fixed by such officer or officers, a physician to the coroner,
"whose duty it shall be to perform all the post-mortem ex-
"nations required by section 4109 of the Code of 1882, and to
"accompany said coroner in all inquests and testify as to the
"cause of death. Said physician shall prepare a careful written
"opinion as to the cause of death in each case and shall file
"the same with the coroner as part of the inquest.

"It shall be the further duty of said physician to investigate
"the cause of death of all persons dying suddenly in the
"county without the attendance of a physician and report the
"same to the coroner. Said physician shall furnish a burial
"certificate when directed to do so by the coroner, whether
"an inquest be held or not.

"Said physician shall also make to the county authorities a

" monthly report, giving the number of inquests held and the " result of each inquest, the number of cases investigated of " persons dying without the attendance of physicians and " the cause of such deaths." (*Georgia Laws*, 1893, *Part I.*, *title* 10.)

RESIGNATION OF DR. PEPPER.

On April 23rd, Dr. Pepper resigned the position of Provost of the University of Pennsylvania, a position he had held for thirteen years. While retiring from this office he does not leave the University, but will devote his time to medical teaching and practice. During his reign the affairs of the University have prospered to a marvellous extent, as an example of which we may state that from 1881 to 1894 the value of the lands, building and endowment have increased nearly four-fold, while the number of teachers in all departments has increased from 88 to 268. Dr. Pepper gives as his reason for retirement, " It has now become necessary for me to choose between administrative work and medical science. My devotion to the latter has determined the choice."

The University is to be congratulated on having such a friend, even while losing him as provost.

Public Health.

The following circular, published in French and English, has been issued by the Board of Health of the Province of Quebec for free distribution. Copies may be had by applying to the Secretary at No. 76 St. Gabriel St., Montreal.

WHAT IS AT PRESENT KNOWN OF TUBERCULOSIS AND THE MEANS OF PREVENTING ITS CONTAGION.

Tuberculosis is best known to the public during the last period of the disease that is to say, the period of softening and breaking down of tuberculous tissue. It is commonly called consumption.

That the lung is not the only organ liable to become tuberculous is abundantly demonstrated by the numerous cases of tubercular meningitis, tuberculosis of the bowels, of the bones and joints, while scrofula is merely another manifestation of tuberculosis.

FREQUENCY OF TUBERCULOSIS IN MAN.

Of all diseases Tuberculosis is that which claims most human victims. Statistics show that it causes one sixth of all deaths. throughout the civilized world. 15,795 deaths were registered in the Province of Quebec during the last six months of the year 1893, and 1256, or about 8 per cent., were shown to be caused by tuberculosis.

PROPAGATION OF TUBERCULOSIS.

Tuberculosis is a germ disease and is consequently contagious. Its germ or microbe may be transmitted, 1st by heredity, 2nd by inhalation of air containing these germs, 3rd by means of contaminated food (especially the milk and meat of tuberculous animals), 4th by absorption through a wound (inoculation).

Heredity.

Until recently it was believed that most consumptives owed their disease to heredity, and when the father and mother proved to be above suspicion, there was no hesitation whatever in enquiring about the preceding generation.

At the present time, *without denying the possibility of the germ of tuberculosis being sometimes transmitted by heredity,*

tuberculosis has been found in the still born child, heredity has no longer the same importance, and only a very limited number of cases of the disease is now credited to it.

"Modern science," says Reus, "does not deny the numerous facts by which the influence of heredity evidently shows itself, but explains them in quite a different manner to what was done formerly. What tuberculous parents transmit to their child is not, in most cases at least, tuberculosis itself, but a feeble constitution, forming a most favourable soil to receive the microbe of tuberculosis, unable to resist its attack, and presenting for its future growth the best breeding ground possible. Although the parents do not transmit this microbe to their child with their blood, they unfortunately spread it in their neighbourhood as they are phthisical, so that their child is in most favourable circumstances to receive and communicate it in the same manner to its brothers and sisters, who in their turn die, not by heredity, but by infection."

2. *Inhalation of Air containing the Germs.*

The breath of consumptives is not in itself infectious, but it is otherwise with regard to their sputum, which, once dried, liberates a great number of microbes or germs, which like other fine particles of dust, pass into the atmosphere and contaminate it. In this polluted air, predisposed persons become unconciously infected with tuberculosis.

This mode of transmission of tuberculosis is by far the most frequent and to it is now attributed most of the cases formerly ascribed to heredity. The frequency of this mode of infection is easily explained. Consumption not being a disease which necessitates remaining indoors, tuberculous patients infect with their sputum their dwelling and the places they visit. They thus become ambulating sources of infection polluting every thing in the way—streets, public gardens, tramways, theaters and even churches. According to Billings, the city of New York must have permanently within its limits 11,000 of these ambulating cases. Adapting his figures to Montreal and Quebec, the number of consumptives would be about 1,600 and 500 respectively for the two cities. If, as Bollinger says, the daily expectoration of one patient may contain as much as twenty millions of germs, one can easily

imagine the amount of danger continually contributed by tuberculous individuals whom neither hygienic considerations nor good breeding prevent from spitting on the floor or ground wherever they happen to be and who thus spread infection right and left. (1).

3. *Ingestion of Contaminated Food.*

Milk, cream or butter from a tuberculous cow contains and may transmit the germ of the disease. It is now demonstrated that the transmission may take place without any tubercular lesion in the udder, which was formerly regarded as an essential condition. Such transmission by milk explains the frequency of tuberculosis amongst children.

The meat from a tuberculous animal may also transmit the germ of the disease, and it does not seem to be demonstrated that only the parts which are tubercular are dangerous.

The frequency of tuberculosis amongst animals is not the same in all countries. Of 1058 cattle examined in Germany by Kopp, 738 were found to be tuberculous. Amongst the animals slaughtered at the abbatoirs of Berlin, during the two years 1887-88, 4,300 were tuberculous. Osler estimates the proportion of tuberculous cattle in the Eastern States of the American Union at from 10 to 15 per cent. Of 13 heifers apparently in very good health examined by Saunders & Robertson of the experimental farm of the Department of Agriculture at Ottawa, five were found to be tuberculous.

4. *Inoculation.*

The germ of tuberculosis may be absorbed through a wound, especially after an operation or an autopsy, though this seldom occurs.

PREDISPOSING CAUSES OF TUBERCULOSIS.

As is the case with any other infectious disease all who become in contact with the germs of tuberculosis do not take the disease, unless they are predisposed to it and therefore in a specially susceptible condition.

(1) On this subject, Armingaud says:—Neither the presence of a consumptive nor his contact are dangerous, it is neither his person nor his breath that are noxious, and we can talk during long hours with him, live with him for years, and nurse him most attentively without serious danger provided certain precautions are taken, the most important of which is to collect his sputum and not to wait until it is dried and carried into the air as dust before destroying it.

The following are acknowledged as predisposing causes: 1st heredity; the most important. Without always transmitting the infectious germ (heredity of seed) tuberculous parents often produce children with feeble constitutions (heredity of soil) who thus fall easy victims to the germs of tuberculosis.

2nd. Certain diseases, such as diabetes, measles, whooping cough, typhoid fever, bronchitis and broncho-pneumonia. Thus the statement that "a case of typhoid fever has turned into consumption" has some truth in it, as the feebleness which follows typhoid fever favors the absorption of the tuberculosis germ.

3rd. Living in unsanitary, over-crowded, ill-ventilated and damp dwellings. It has been frequently observed that, after draining a city, the death rate of tuberculosis had been considerably reduced.

4th Professions and trades which require a daily attendance in overcrowded ill-ventilated rooms; especially occupations which require a sedentary life, fatiguing positions etc., as in the case of tailors.

5th. The attendance in work-shops where the air is always dusty or in workshops where the air is very warm or where steam escapes. The dusty atmosphere of the former and the issuing from the hot and steamed air of the second often cause bronchial or pulmonary affections which predispose the lung to absorption of the germ of tuberculosis, probably by denuding it of its epithelium (Dieulafoy).

6th. Mal-nutrition from insufficient or unhealthy food; excesses, exhaustion from repeated pregnancies, prolonged lactations, anxiety, mental and physical overwork, &c.

HAVE WE ANY MEANS OF DIMINISHING THE DESTRUCTION CAUSED BY TUBERCULOSIS, AND OF PREVENTING ITS CONTAGION?

Certainly we have, especially when, as is now the case, we know that heredity has but a secondary importance in the propagation of this disease and that when *contagion occurs it is usually only because individuals of feeble constitution (whether hereditary or acquired) cannot resist at a given moment the* influence *of the germs which constantly surround them.*

The measures to be taken to prevent the development or

the contagion of tuberculosis consist: 1st in combatting predispositions in whatever form they exist: 2nd, in limiting the number of contagious foci constantly created by consumptives: 3rd, in preventing the use of food capable of reproducing the disease.

1. *Hygienic Treatment of Children Born of Tuberculous Parents.*

This must begin at birth. If it is the mother who is tuberculous, she must not nurse the child. If possible, the child should be brought up in the country and better still, if possible, near the sea, or at least make long stays in the country, as the dangers of contagion are less frequent there than in cities. Any sign of feebleness such as rachitis, anæmia, enlarged glands, &c., should receive due attention. Diseases of the respiratory tract should be most carefully attended to, as they may directly prepare the soil preferred by the tuberculous germ. Later the person should be advised to chose a profession that will make him lead an out door life and he must as much as possible be kept away from dusty workshops or those in which there is a high temperature and in general from overcrowded and ill-ventilated workshops.

2. *How to Prevent or Lessen the Infection of the Healthy by the Sick.*

As, practically, (1) it is only by the dust of his dried sputum that the tuberculous patient may transmit the disease, it follows that *if his sputum or the things contaminated by it are destroyed or disinfected before they have had time to dry the patient ceases to be a source of infection, to those who come into contact with him.* This disinfection must be a persistent one, that is to say it must be done not only in the home of the patient, but also at any place he visits.

At home the patient should spit only in spittoons or bowls, cups, partially filled with water, or better with a disinfecting solution (2) so as to keep the sputum in a moist condition.

(1) The excreta of a tuberculosis patient may contain the germs of tuberculosis if the patient swallowed his sputum or if the intestine itself be in a state of tuberculous ulceration. For this reason all linen or clothing which have been thus contaminated must be well boiled.

(2) For instance: Bichloride of mercury 2 drachms, dissolved in one gallon of water.

Spittoons filled with saw dust, ashes or other such matter are dangerous as they favour the drying of the sputum. The cups or spittoons are to be emptied daily into the fire or, if found more convenient, they may be filled with boiling water and subsequently emptied in the sewers, but never on manure piles in the yards or gardens, where those germs which escaped destruction might contaminate the air or infect the fowls picking about and eating them. (Congress of Tuberculosis, Paris, 1888)

When the patient leaves his home and whenever he finds himself in a place where there are no spittoons, or, what comes to the same thing, if these are not emptied regularly enough to prevent the dessication of the sputum, he should use a pocket spittoon or a handkerchief. The handkerchief should be put in boiling water at the first opportunity, so that the sputum will not have time to become dry.

It is most desirable that more spittoons should be provided in public places. They are specially needed in railway stations, passenger cars and factories, where their presence, perhaps, with the aid of appropriate placards, would soon educate the public to their habitual use.

The room of the patient must be large and sunny, and if possible should not be papered. The curtains should be made of some fabric which can be washed in boiling water, the floor should be waxed or covered with oil cloth,—in a word there should be taken out of the room all that cannot be cleansed with a wet cloth, and dry dusting and sweeping should absolutely be abandoned as displacing and giving motion to the germs that had settled on the floor or objects contained in the room. The wet cloths used in cleansing must be boiled before drying. Body and bed linen must always be boiled in the process of washing. All these precautions taken with regard to the patient are to his advantage, as they increase his chances of recovery by preventing self inoculation. (1)

If the patient dies, or changes his residence, the safety of the

(1) If no mention is made here of the excreta of tuberculous patients, it is because when thrown into the sewers or cesspools as it is usually done, the germs are very soon destroyed (Armingand). It must not be forgotten however that the patient can soil his linen and bedding so that in such circumstances the excreta become as dangerous as the expectoration. This soiled bedding and clothing must be disinfected by boiling.

persons living in the dwelling demands that the room of the patient with its contents, furniture, linen, bedding, clothing, &c., be disinfected (1). Wool and cotton tissues should be boiled or passed through a steam disinfector. The floors, walls (papered or not) should be washed with a disinfecting solution. All pieces of furniture or other things which are not passed through the steam disinfector should be washed with disinfecting solution.

3. *Prevention of the Use of Food Capable of Reproducing the Disease*

mostly belongs to municipal authorities. They should inspect the dairies and give or continue licenses only to those milkmen whose animals are found healthy.

The practice of giving only boiled milk to artificially fed infants is becoming more general. There is certainly no better precaution against tuberculosis than by boiling the milk and this moreover renders its digestion easier (Drouet).

There can be no adequate control over the meat supply if it is not inspected and stamped previous to being offered for sale. The stamping is indispensible as it is the only way for the public to know that the meat which is offered for sale is that which has been examined. The establishment of public abattoirs renders the control of the meat supply much easier for the municipal authorities.

The regular inspection of cattle throughout the Province by competent veterinary surgeons and the slaughtering of animals found to be tuberculous complete, the measures necessary to prevent the use of tuberculous food, and in addition would also prevent the propagation of the disease amongst our herds.

KOCH'S DISCOVERY OF TUBERCULINE.

In 1890, Koch announced to the world that he had discovered in tuberculine (2) a specific remedy which destroyed tuberculous tissues. Unhappily the experiments with his tuberculine did not have the effect anticipated, for while in

(1) The local Boards of Health of the cities of Montreal and Quebec have undertaken to disinfect, free of charge rooms which have been occupied by consumptive Patients when requested to do so.

(2) Tuberculine is a glycerine extract of cultures made of the germ of tuberculosis (tubercle bacillus).

some cases good results seemed to follow its use in many instances the symptoms were aggravated. At present Koch's lymph is merely employed to diagnose tuberculosis amongst animals (1) though according to Strauss & Teissier, this method is not absolutely sure, the febrile reaction which follows the inoculation with tuberculine not showing itself in tuberculous subjects but having been observed also amongst subjects affected with other diseases. Klebs has eliminated some of the noxious constituents of tuberculine and the experiments with his "tuberculocidine" have given better results than those of Koch's tuberculine. Spengler combines tuberculine and tuberculocidine and obtains thereby good results.

All this seems to indicate that we are getting nearer to the discovery of a specific, and the only reproach we can make against Koch is that of having given us permaturely, facts not thoroughly studied.

However, as this discovery is far from being complete, and is likely to remain so for some time to come, the surest means of guarding against consumption is by following the directions given in this circular.

(1) "When a small quantity of tuberculine is injected under the skin of a tuberculous animal, the temperature of the body rises considerably; while in animals free from this disease, no such effect is produced. The rise in temperature does not take place immediately but occurs between 3 and 20 hours after the injection. The duration of the high temperature also varies." (Dominion Experimental Farm Bulletin).

Obituary.

DR. JOSEPH WORKMAN.

No member of the medical profession in Canada has had so long, and few, if any, so brilliant a career as the subject of the present sketch.

Born at Lisburn, Ireland, in 1805, he had all the qualities of a gifted son of that land which has produced so many around whom fond memories will linger. All the members of his family were endowed with physical vigor, talent and that indomitable energy which is essential to pronounced success.

Dr. Workman graduated at McGill University in 1835, and for years before his death was her oldest surviving medical graduate. Though he practised a short time in Montreal, he soon took up his residence in Toronto, which continued to be his home for fifty-eight years.

The Doctor's strong literary and political tastes early led him into journalism, and the *Mirror* was a powerful reflector of this brilliant writer's views on the questions of the day. In 1836, Dr. Workman became a professor in the Rolph School of Medicine and soon ranked as one of its most popular teachers, winning the grateful esteem of many young men who retained for him a profound respect and almost filial regard throughout their lives. Perhaps no man occupying a place in the ranks of the Canadian profession has ever so attached to himself the young men with whom he came closely in contact. Acquaintance soon grew into friendship, then admiring devotion never to grow less. In 1853, began a new era in this remarkable man's career. He then undertook the management of the Toronto Asylum for the Insane. He found it in chaos, with the prevalence of ancient and irrational methods of treatment corresponding with still more irrational views of insanity itself; and after twenty-two years of service he left the institution, after he had made it and himself famous throughout America at least.

Dr. Workman had resisted all attempts to constitute the institution over which he presided a refuge for political hacks, or in any way to subordinate the interests of his patients, to whom he seemed to be attached as a friend, to considerations

of a political kind. He had also the most intense hatred of every form of sham or pretence. Like every fearless man who is in advance of his time, Dr. Workman had enemies. He was assailed in the press because of his views regarding responsibility in the insane, but all who attacked the vigorous, witty, and, on such occasions, caustic Doctor, did so to their cost, whether through the press or in the witness box. His was a sword "of the ice brook's temper," that never failed to cut deep. He on many occasions championed the cause of the profession, and we are to-day reaping the rewards of his hard fought battles.

From 1875 onward he enjoyed quiet, yet not inactive leisure. Till the day of his death, the latest medical and other literature was to be found on his table. His contributions to the medical press, especially on alienistic subjects, were numberless; and he was an honorary member of the Medico-Psychological Society of Great Britain and also of Italy.

He was an industrious translator of medical and scientific Italian publications. In fact he translated the whole of the most important contribution that had up to date been made in Italy on the anatomy and physiology of the brain, though for this he never could secure a publisher. Dr. Workman occasionally, when on visits to his relatives in Montreal, attended the meetings of the Medico-Chirurgical Society and was elected an honorary member.

In 1889 his portrait in oil was hung in the rooms of the Toronto Medical Society, a fitting tribute to the Nestor of the profession in Canada, on the very ground on which his battles had been fought and his victories won, and where he rested surrounded by hosts of devoted and admiring friends.

The veteran passed away when quietly sitting in his chair, busy to the last—just as he would, no doubt, have preferred to close the scene. His career has been a great and worthy one, and he has left a record of which the profession to which he belonged may be proud. We have parted with a great intellect—a noble heart!

G. H. RAYMOND, B.A., M.D.

Dr. Raymond graduated from McGill College in 1886, and entered on the practice of his profession in Sussex, N.B. Last year he came to Montreal and commenced to practice at Point St. Charles. Failing health, however, obliged him to give up work and he returned to his home in New Brunswick, where he died on April 15th. Many will grieve to hear of his death, for he had many friends at college. He was very popular, having been elected president of his class, and this popularity continued until his untimely taking away.

Medical Items.

—The meeting of the American Medical Association will be held in San Francisco June 5th, 6th, 7th and 8th, 1894.

—The forty-fifth annual session of the Medical Association of Georgia, was held in Atlanta, Georgia, April 18th, 19th and 20th, 1894.

—The eighteenth annual meeting of the American Dermat o logical Association will be held at Washington, D.C., May 29th, 30th, 31st and June 1st, 1894.

—Commencing with the July issue the *Archives of Pediatrics* will be edited by Dillon Brown, M.D., Adjunct Professor of Pediatrics at the New York Polyclinic.

—We are glad to notice in the April number of the *Dominion Medical Journal* a well written epitome of Canadian Medical Literature. The style is clear and newsy and makes easy reading,

Soap and Water in Glasgow.—In a lecture at the London Institute, on "The Chemistry of Cleanliness," Prof. Vivian Lewes said, when speaking of the wasteful action of hard water on soap: "The introduction of the new Loch Katrine water-supply to Glasgow has saved the city several thousand dollars a year in soap; and, mind you, Glasgow is not a place where they waste soap."

The Danger Line in Anæsthesia.—From the reports of the Clinical Society of Louisville, as published in a recent number of the *Medical and Surgical Reporter*, we glean the following interesting statements: Dr. Kynett, of Philadelphia, called attention to this valuable sign as the danger-line in anæsthesia: when the addition of fresh ether to the cone fails to produce an up and down movement of the wind-pipe the ether should be withdrawn; when that movement occurs the condition is a safe one.—*National Med. Review.*

A Sterilization Stamp.—Dr. H. Hocheegy in a recent number of *The Wiener Klinische Wochenschrift* describes a method whereby he can assure himself that articles of dressing have been sterilized. He uses a yellowish-brown marking fluid which has the property of becoming bright red on exposure to the temperature of boiling water. If the steriliza-

tion is complete, the yellow spots with which the dressing has been marked become red. The colouring matter consists of one hundred and fifty parts of a solution of aluminum acetate, one hundred and fifty parts of water, and five parts of a twenty-one per cent. alizarine paste.—*The Physician and Surgeon.*

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Original Communications.

NOTES ON SOME AFFECTIONS OF THE BRAIN.*

By W. S. MORROW, M.D.

Among all the highways and by-ways of medical science, I know of none in which medicine, surgery, physiology and pathology are advancing hand in hand with a greater sense of mutual dependence than in those of cerebral localisation. I make localisation prominent at the beginning of this paper, because it is the standard about which we must rally in this department of medicine, if we ever wish to drive out empiricism and to take possession in the name of science.

The first great step in scientific localisation was the discovery of the centre of speech by Broca, some thirty years ago, in the third left frontal convolution.

I remind you of this, not only because of its historical importance, but because disturbance of this centre was a prominent symptom in the first two cases I wish to relate.

My first case shows how aphasia may, for a time at least, be the only definite symptom of an organic affection of the brain.

W. G., aged 38, first consulted me in March, 1893, complaining of headache and occasional nausea. He also had a macular rash and gave a history of syphilis dating back some fifteen years. I prescribed iodide of potash, which he took rather irregularly, but with considerable benefit. At the end

* Read before the Montreal Clinical Society, Dec. 9th, 1893.

of three months, while playing at the piano one evening, he suddenly found himself unable to pick out the right notes. When he turned to tell his wife he mumbled something she could not understand, and throughout the evening he was not able to put many words together and sometimes used the wrong one.

He showed no symptoms of weakness, but his face twitched several times, and when he went to bed his wife thought he moved more than usual, as if restless.

The next morning he was sick at his stomach and his head ached, but he was able to come to my office and showed no signs of weakness. He walked all right, could move his arms freely, and his face looked symmetrical.

When he started to tell me about himself he said three or four words of the beginning of a sentence but was unable to complete it, although he seemed to understand perfectly all that I said to him.

When I asked him to count, he only got as far as four at first, but after several tries he got up to the teens.

When I gave him a book he seemed able to understand it, and only made slight mistakes in reading aloud.

He wrote from dictation with little difficulty, but when he tried to tell me about himself in writing he could not find words and wrote, after a great deal of thought :—" I can not able to stand." He, therefore, showed ability to understand spoken and written language, but found it hard to express himself in either.

During the following night he got much worse, and the next morning I found him in a stupid somnolent condition.

The right arm and leg were almost completely paralysed and the right side of his face partially so. The left pupil was contracted and the left conjunctiva congested. The tongue, when put out, deviated to the right. Speech was attempted, but was unintelligible and his mental condition was poor.

The next day he was a little better and I found sensation diminished in the right arm and leg. The heart and kidneys showed no signs of disease.

Under large doses of potassium iodide and mercurial inunctions he improved rapidly. In a week he was able to stand and to move his right arm. He was also able to speak, though his memory of both words and events was slow.

Two weeks later he could lift his right arm above his head, and could walk without support.

About the end of July he passed from under my observation for a time, but I saw him again in October and found that he had had no fresh attack. He was able to walk long distances, and had fairly good use of his arms, but he still found difficulty in doing his ordinary work, which was stone-cutting and required considerable dexterity. He said, he sometimes had attacks of dizziness, and in speaking could not always remember the words he wanted as well as before the attack.

As to diagnosis :—The association of aphasia with hemiplegia usually points to some lesion of the left middle cerebral artery. The absence of coma, the gradual onset, and the age of the patient render hæmorrhage unlikely, and indicate rather thrombus, embolus, or syphilitic disease. The rarity of simple thrombus, the absence of any obvious cause for embolus, the gradual onset, the rapid improvement during anti-syphilitic treatment, and the history of syphilis, render syphilitic disease the most likely cause of his symptoms.

I should like to point out here that aphasia occasionally seems to depend on purely functional changes, and, from the peculiar mode of onset in this case, such an idea might have occurred to one before the appearance of the hemiplegia.

That aphasia may be a functional affection is indicated by the fact that lunatics may act as if aphasic for years and suddenly resume the function of speech, and I will relate a case to you that I reported in the General Hospital, in which I believe epileptic fits took the form of temporary attacks of aphasia.

L. McL. was admitted to Dr. Stewart's wards in the General Hospital in November, 1891, complaining of cough, palpitation, and periodic seizures. He was a farmer, married, temperate, had had dysentery and influenza. Since the latter, two years before admission, he had not felt strong.

Family history of phthisis and paralysis. For a long time he was subject to severe headaches accompanied by nausea, but he had been free for several years. Eight months before admission he had a sudden attack of unconsciousness which lasted, he thinks, about an hour. On recovery his memory was a blank, but there was no paralysis. He had no further seizure for two months, but at the end of that time, while in the fields, he found himself suddenly unable to remember the words he wanted, and had to use other words and signs in their place. This condition passed off in a few minutes, but returned several times during the next three months in much the same way. Five months after the first attack he again had one in which he became unconscious. During the three months preceding admission he thought that he had not lost consciousness in any attack, but he had a great many in which he became aphasic. He had had as many as twelve in one day, and at other times had gone several weeks without. He had twice frothed at the mouth during his attacks ; he had often had buzzing in his ears before them, and had occasionally had twitching in some of his limbs afterwards.

His condition on admission was as follows :—He was a man of large frame with a reddish complexion and moderate muscular development. He had a slight cough, and there were signs of incipient phthisis in his right lung and bacilli in his sputum. He suffered from diarrhœa and felt weak. He had lost some weight but did not look at all emaciated. Soon after admission he had one of his attacks, of which I give an account obtained partly from himself, partly from the nurse, and partly from personal observation :—The patient was talking to the man in the next bed when he felt a peculiar full feeling in his stomach. This travelled up his chest, around to the back of his head, and up over the vault to his forehead. When it reached his forehead he became unable to speak.

His neighbour heard him say, what sounded like two words indistinctly mumbled, and then he turned over on his side, made a grunting noise and beckoned to the nurse. He then went through the movements of writing on his hand. As he told me

afterwards, he wanted the nurse to bring him some paper, so that he could write and ask her to send for me.

I was sent for and came at once. I found him sitting up in bed with a troubled expression. He was unable to speak, but answered questions by nods and appeared to understand what was said to him. I gave him a piece of paper and asked him to write his name. He wrote instead the sign Dr., which, you remember, he had in mind to write as the fit was coming on, to cause the nurse to send for me. He seemed to know he was wrong and tried again with no better success. He was unable to pick out his own name when I wrote it among several others. A minute or two later he spoke and said :—" I am getting all right now." His faculty of speech had been in abeyance for about fifteen minutes, as nearly as I could calculate, and had only partly returned. I asked him now the name of his attending physician and he could not tell, but was able to read it aloud off the admission card.

He was unable to tell the name of the town near his home, and when asked to write it instead of Sherbrooke wrote Sheresherse. He had some difficulty in getting his words for some half hour or more after I arrived. He said he knew the words he wanted but could not say them, and he told me he had a paralyzed feeling at the root of the tongue.

He did not sleep for four hours after, and this brought him to about his usual time for going to sleep. He told me the next day that he had a peculiar dreamy feeling during the onset of the attack, in which he seemed to be saying, " Strange, strange, strange," to himself and felt himself floating off through the air.

He had one more attack during his stay in hospital, which I did not see, and he went home early in December.

In favor of these attacks being epileptic we have the following facts :—The presence of aura ; the occurrence of as many as twelve within twenty-four hours, succeeded by periods of freedom from them—the old history of sick headache and the absence of coma or paralysis. The account he gives of having been unconscious for an hour at the first attack does not ex-

clude epilepsy, even if accepted, for it is known that epileptic fits may almost exactly resemble apoplexy, especially the first ones. Thus Fagge, in his "Practice of Medicine," quotes from Trousseau an account of two epileptics, in whom the first attacks resembled apoplexy very closely, but were followed by ordinary epileptic fits.

A few days after I saw this man, in what I consider his epileptic fit, the patient in the next bed afforded me the opportunity of seeing an apoplectic one, which was very interesting to compare with it.

J. S. was admitted to the General Hospital in November, 1891, complaining of weakness in the right arm and leg, of dizziness, and of vomiting in the morning.

He was married, aged 37, teamster, moderate drinker. No history of syphilis.

Family history negative as regards nervous or vascular disease. Two years before admission after going to bed apparently in his usual health, he passed from sleep into a state of unconsciousness, which lasted 48 hours. While in this condition he had a number of convulsions and vomited several times. For a few days after he came to himself his mind was confused, but there was no paralysis and he was all right in about a week. After this attack he remained well for nearly two years ; but two months and a half before admission he had a second fit, which did not affect his mind so much or last so long as the first, but which left his right arm weak.

He had a third attack about two weeks before admission which further weakened his arm and right leg.

During the two weeks between this third attack and his admission to hospital he vomited several times. On admission he was seen to be a tall spare man. Digestion good. Lungs normal. Pulse 72, high tension. Heart slightly hypertrophied. Urine of high sp. gr. 1032, acid, no albumen or sugar. His right arm and leg were decidedly weaker than the left.

In both, the parts nearest the body were the weakest in proportion.

Measurements showed the right arm and leg to be slightly

smaller in circumference than the left. Sensation normal. Both knee-jerks exaggerated. The patient said he had a full feeling in his head about every second day, which was sometimes relieved by vomiting, and he felt best when his bowels were a little loose.

On December 7th he had one of his attacks.

For 24 hours before the attack he felt his right hand getting numb, and as the fit was coming on this numbness increased. Then he felt chilly and his head began to feel big and he called "nurse, nurse," as he was going into the fit.

I arrived soon after it started and found him lying down with his head bent back. There were clonic spasms of the eyelids, lower jaw and both hands. Pupils widely dilated. After, perhaps, a couple of minutes the spasms stopped, the pupils contracted to normal, and he spoke or rather mumbled something indistinctly.

He seemed to know the words but formed them imperfectly.

When asked to put out his tongue he projected it far to the right.

His right arm was hanging limp and powerless and there was no power of voluntary motion in the shoulder, elbow, wrist or fingers. The biceps could be felt contracted and resisted extension.

His left arm was not paralysed, but was the seat of a fine tremor. Sensation was considerably diminished in the right arm to touch, pain and temperature. After about an hour the power began to come back to the right arm, and one of the first muscles to improve was the biceps. During the attack I spent most of the time watching his arm and face, but after it was over I found the right leg weaker than it was before.

This attack was not followed by drowsiness nor even by headache.

In a week his condition had returned to about what it was on admission, and he went out without having any more attacks. I heard from him quite recently and, during the two years which have elapsed since he left the hospital, he has had several of these fits. He says that one left him so badly paralyzed

that he was unable to get about for six months. At the date of writing to me he was better and able to drive his team. Taking into account the paralysis, the 48 hours of unconsciousness at the first attack, the recurrence, and his high arterial tension, we are almost driven to a diagnosis of cerebral hæmorrhage ; but from the attack which I saw alone, I should have found a diagnosis difficult.

A slight degree of paresis following a fit does not exclude epilepsy as it is sometimes seen in this disease.

In this case, however, I think the history makes the nature of the case pretty clear.

A fact which sometimes makes a diagnosis between apoplexy and epilepsy difficult is, that hæmorrhage or some other lesion of the brain may be the starting point of epilepsy.

I was consulted a short time ago about a woman who had some half dozen fits of a fairly typical epileptic character after a fall on the head. The fall stunned her, and caused considerable effusion of blood into the loose tissue about the eyes.

A couple of weeks after the fall, there was a sudden gush of dark fetid blood from the nose, which at the time of the accident must have been poured out into some part of the nasal passages. For two or three weeks she had almost constant headache and was very drowsy and weak. The left external rectus muscle was paralyzed.

Altogether she had 6 or 8 fits in which she had clonic spasms and bit her tongue badly. With rest in bed and a simple tonic she got better and the fits stopped. As she never had any fits before her injury, they must have been caused in some way by it.

Considering the severity of the fall, the continuous headache, the drowsiness, and the paralysis of the external rectus, it seems likely that the brain itself was injured. Perhaps there was intracranial hæmorrhage, perhaps even fracture of some of the bones at the base.

If, as the cases related seem to indicate, an injury to the brain may cause epileptiform fits, and if epilepsy may come in the guise of aphasia, which is so often a feature of organic

disease, we must naturally expect to meet many cases in this department of medicine taxing to the utmost our diagnostic skill.

In February last I had a case which I found considerable difficulty in classifying. A boy of about 13 years of age fell on his head and partially stunned himself. He was able to get up in a minute or two and was apparently all right, except for a headache and a slight feeling of nausea which persisted for some days. At the end of two weeks, just after leaving the closet, he felt his right leg become suddenly weak, causing him to stagger and seek support. His mother, who was present, says his face twitched. When I arrived, some half an hour later, he was lying down with a drowsy appearance ; lids drooping ; pupils large ; mind wandering ; answers monosyllabic and silly. There was paresis of the right side of the face and also some weakness of the right arm and leg. I got him to pass some urine which, on examination, presented some interesting features.

Although it was less than an hour since he had left the closet and presumably emptied his bladder, there was about 8 oz. of it. It was pale like water and the sp. gr. only 1003½. No albumen or sugar.

This condition of the urine made me think at first of a lesion of the medulla ; but as the face and limbs were paretic on the same side, whatever lesion there was must have been above the medulla before the facial nerve crossed.

From the mental disturbance it seemed likely that the seat of the lesion was cortical. As to whether there was a small hæmorrhage, caused by the straining at stool, being too much for some vessel which had been wounded when he fell, or whether the attack was simply a remote functional effect of the concussion he received two weeks before I do not know. At any rate the symptoms rapidly improved, and at the end of a week it was hard to find anything wrong, except a slight asymmetry of the face when he laughed.

Three days after I was first called in, when his mental condition was sound, I tested sensation and found it diminished in the right arm, especially to temperature.

In two other cases which I have reported above, I noted more or less anaesthesia accompanying motor symptoms referable in at least one case to the cortex. Until recently we believed that ordinary sensation had its centre in certain convolutions on the inner surface of the brain, but within the past few months the *British Medical Journal* alone has published evidence which goes very far to prove that the outer surface of the brain about the fissure of Rolando, the so-called motor area, has sensory functions as well.

In September a paper was published by Dr. F. W. Mott, of London, in which he affirmed that after removing part of the motor area in monkeys he had found sensation diminished.

He also stated that Mr. Horsley has seen undoubted sensory defects follow the removal of large portions of the Rolandic area in man.

In the same number was a paper by Dr. F. Stacey Wilson, of Birmingham, who, reasoning from clinical experience, brought forward similar views. He related eight cases, in which paralysis, which seemed to be of cortical origin, was accompanied by anaesthesia.

One very important fact he pointed out was, that anaesthesia is more often found with paralysis of the face and arm than with that of the leg or trunk. But the latter, from the more central position of their centres, would be more frequently involved in lesions of the gyrus fornicatus or hippocampal gyrus which were formerly regarded as the sensory centres.

In the *British Medical Journal* for November 4th, some remarks were published by Dr. C. S. Sherrington on a case of focal epilepsy where the lesion was found to be an old hæmorrhage in the leg area. He drew attention to the fact that the patient had aura referable to certain sensory nerves which were represented in the same lumbar segment as the muscles where the fits started. He also stated that a fit had been produced by irritating the sensory area to which the aura was referred. Does not this case suggest some connection between the motor leg centre and these sensory nerves ?

I will close this paper by recapitulating the principal propositions, which the cases I have related, seem to suggest for discussion.

Aphasia may be the most prominent symptom, for a time at least, of either functional or organic affections of the brain.

Epilepsy may closely resemble cerebral hæmorrhage, and the latter or kindred lesions may closely resemble or may even cause epilepsy.

The so-called motor area has sensory functions as well, and would be better called by some other name.

ONE HUNDRED CASES IN THE CORONER'S COURT OF MONTREAL, 1893.

By Wyatt Johnston M.D., Montreal.

(Concluded.)

IV.—Death from Natural Causes (20 Cases).

Under natural causes I have included those cases only where a known natural cause could be fairly considered as proved. Those cases where indefinite verdicts of "natural causes" were rendered have been classed as deaths from unknown causes.

Our great source of inaccuracy in coroner work is the readiness with which probable (and even, improbable) medical explanations of the death are made the basis of verdicts. The phrase "I don't know" is not perhaps as frequently made use of in medical evidence as it might be.

The family physician is placed in a very delicate position when summoned as a witness. He is often examined in the presence of the persons who are his patients, before a jury some of whom may be his patients and he may have already made some informal statement as to the cause of death. He may too, through his attendance on the deceased be in possession of secrets which he hesitates to reveal, 'sine gravi causa,' to a prying and inquisitive jury. Among his patients, the family physician is very properly regarded as an oracle. Personally, when ill most of us infinitely prefer that our medical attendant shall not inflict upon us his doubts and difficulties in our own cases. On the other hand, in legal matters, the oracular functions of the physician remain in abeyance, and it becomes simply a question of what is or is not proved by facts.

An expert is placed in a rather more favorable position than an ordinary medical witness as there are no extraneous reasons why he must appear to know more than the facts clearly establish, and he may without loss of dignity adopt the agnostic as opposed to the oracular stand-point in giving medical evidence. As the information acquired by the expert is not obtained in confidence from a patient, he is more free to divulge it if necessary, and the employment of experts in

medico-legal matters is the means in France of securing inviolable secrecy of practicing physicians.

Deaths from natural causes are as a rule harder to interpret than those from violence, and of all natural deaths those which occur suddenly are usually the most difficult to explain. Often even a post-mortem does not fully clear up the matter, since the detection of structural lesions, except when these from their nature are obviously incompatible with the continuance of life, does not fully explain why the vital function was arrested at a given moment.

Vibert, (*Précis de Medécine Légale*) has made an excellent classification of sudden deaths into the following four groups:—

I. The lesions are such that there can be no doubt that death was due to a natural cause, as, for instance, in cerebral hæmorrhage, rupture of aortic aneurysms, etc. In these the true cause of death is *demonstrated.*

II. The lesion found is such as is capable of producing sudden death but does not exclude the possibility to some other cause having intervened. Thus, although there is organic disease of the heart or kidneys it may be possible that death is really due to some other cause. These lesions may therefore be said to *suggest* rather than to demonstrate the cause of death.

III. The lesions found suffice to indicate a fatal disturbance of vital function but are of a general nature and common to several diverse causes. Thus fatal congestion of the lungs, or of the brain, is compatible with suffocation, alcoholism, narcotic poisoning and many other conditions. Here medical inquiry into the circumstances of the death with reference to the possible causes may make the proof fairly complete.

IV. Neither in the anatomical nor chemical examination of the body, nor in the circumstances of the death is there any explanation of the death. These unexplained cases of death are however rare.

Unexpected deaths occur most commonly among (1) drunkards, (2) old persons and (3) young children.

It must be remembered that because the body is found the death has not necessarily being sudden.

The following are the details of the deaths from natural causes met with in this series:—

Death was sudden in 13 cases. In 13 cases there had been no medical attendance. In 8 cases the bodies were found dead. Autopsies were held in 15 cases.

The causes of death were as follows:

Pneumonia, 6; pulmonary embolism, 1; phthisis, 2; heart disease, 3; interstitial nephritis, 1; cerebral hæmorrhage, 4; cerebral abscess, 1; still born, 2.

Pneumonia (6 Cases.)

In a number of cases sudden death is due to some serious acute or chronic disease, which has produced few or no symptoms. It has long been known that ambulatory cases of typhoid very often terminate suddenly. One of my recent cases (not included in this series) was of this nature, and the autopsy at once revealed the true cause of what was thought to be a case of poisoning. That a latent pneumonia is often the cause of unexpected deaths is well known in hospital practice, but the medico-legal bearing of this fact does not seem to have been recognized, the large proportion of pneumonia among my cases is of special interest. The disadvantage of the practice of carrying on elaborate circumstantial inquiries instead of making an autopsy at once was well illustrated by the following case of death from pneumonia under alleged suspicious circumstances.

Case 2.—*Pneumonia—Suspicion of violence and Starvation.*—H. S., aged 70, an old man of intemperate habits was found dead in bed. The body was seen by a doctor who reported to the presence of bruises on the back (which proved to be only post-mortem lividity,) and suspected a violent death, Another theory was that the old man had been starved to death. The jury met and adjourned several times and listened with much attention to a great deal of circumstantial evidence. Finally they decided to authorize an autopsy of which the following is a condensed report:—

Moderate lividity posteriorly. No marks of violence. Right pleura shows trace of recent lymph in axillary region. Heart, right chambers moderately distended contain long stringy pale clots which extend into the branches of the vena cava and pulmonary arteries. Right lung weighs 1920 grammes. The whole of upper lobe except anterior border completely solid and airless. On section, cut surface coarsely granular and gray, bathed with grayish yellow fluid containing small fibrinous particles. The rest of lung intensely engorged but crepitant. Left lung weighs 550 gms., slightly hyperæmic throughout. Kidneys of

natural size, show a few cysts on surface, capsules adherent. Stomach contains food. Intestinal contents of ordinary amount and appearance. Brain, subarachnoid fluid abundant, otherwise normal. Other regions show no evidences of disease. The body throughout shows fatty tissue in normal amount.

Conclusions.—1. Death has been caused by pneumonia. 2. There is no proof of starvation or of violence.

Singularly enough in view of this medical statement the jury returned a verdict that the deceased died of consumption, and that nobody was to blame.

Case 4.—*Pneumonia—Suspected Poisoning.*—J. M., a woman aged fifty, of intemperate habits, found dead in bed. For some reason suspicions arose that she had been poisoned.

Autopsy.—Jan. 25th, 1893. Body slightly jaundiced. No external signs of violence. Liver extends down to level of umbilicus. Heart muscle brown, valves normal. Right lung emphysematous anteriorly, an area of consolidation found posteriorly, partly in the upper and partly in the adjacent portion of the lower lobe. On section this is found to be grayish in colour, and granular; the surface bathed with a turbid grayish fluid, rest of lung moderately congested throughout but crepitant.

Kidneys small and slightly fibroid. Spleen normal. Intestines normal. Stomach contains a little curdled milk. Liver large, friable, pale and greasy, of orange colour, evidently in advanced stage of fatty degeneration and jaundiced.

Conclusions.—There are evidences of a severe acute pneumonia which has lasted several days and is sufficient to explain the death. There is nothing to indicate poisoning.

Case 86.—E. P. æt. 40. A dissolute and drunken woman, arrested for making a disturbance and found dead in the police cell.

Autopsy, on Aug. 1st, 1893. Body of a very stout short woman, no signs of injury. Brain—moderate œdema beneath pia; brain substance feels very firm and dense. Lungs voluminous. Soft yellow lymph over the posterior part of right upper lobe. The greater part of this lobe is consolidated and, on section, granular and greyish red in colour. Portions excised sink in water. The rest of lung engorged with blood. Bronchi contain much muco-pus. Left lung intensely congested but crepitant throughout.

Liver large and slighty fatty.

Kidneys large, antero-posterior diameter greatly increased. Capsules thickened and adherent. Cortex, swollen and coarse looking, of an opaque grayish colour. Nothing of note in the other organs.

Conclusions.—Death has been due to acute pneumonia. The organs show the effects of usual changes found in chronic alcoholism.

Case 13.—M. R. æt. 64. Said to be in the habit of getting on occasional sprees, in the intervals worked steadily. Died at the end of a few days illness. His wife was supposed by neighbours to have poisoned or starved him.

Verdict.—"*Death from Alcoholism*," (he having been known to drink a moderate quantity of whisky during his last illness.)

Private Autopsy.—May 30th, 1893.—Mesentric glands swollen and succulent. Congestion of serosa of stomach.

In right pleura recent soft adhesions in axillary region, with about 6 oz. of turbid fluid. Right lung weighs 3 lbs. On section almost the whole of the upper and middle lobes and the greater part of the lower lobes solid and airless. Cut surface granular and grayish. On scraping cut surface, a turbid bloody fluid obtained containing minute fibrinous particles. Bronchi reddened and contain a little mucus. Left lung intensely congested and œdematous; near the base a few scattered granular areas of consolidation ranging in size from a cherry to a walnut.

Heart moderately destended, valves normal Spleen normal. Kidneys slightly granular. Stomach, mucosa thickened and red, covered with grayish mucus; mucosa of colon and lower ileum reddened and swollen. Liver large and pale, cut surface greasy, periphery of lobules whitish. Gall-bladder snows a small patch of croupous exudation in the upper surface 1 inch in diameter.

In this case although the condition of the stomach suggested the effects of alcoholism, the presence of a severe enteritis and croupous cholicystitis could not be explained in that way.

Burial in consecrated ground which had been refused on account of the verdict of the jury, was now sanctioned.

Case 3.—*Pneumonia, alleged death from neglect.*—E. M., aged 3½ years, stated to have died on account of neglect by her parents.

Autopsy, Jan. 23rd, 1893. Body of a female child 3 ft., in height. Skin is loose and wrinkled. Marked genu valgum. Shape of chest not rachitic. No marks of violence. Subcutaneous fat in moderate amount, but is firm, dry, grayish in color and feels lumpy. Heart normal.

Left lung crepitant throughout, somewhat congested, a good deal of muco-pus in the smaller bronchi. Right lung shows an area of consolidation the size of an apple centrally situated in the anterior half of the middle lobe; on section this is grayish and granular and yields a turbid juice on scraping. Several smaller granular looking areas of consolidation seen in adjacent portions of the upper and lower lobes. The adjacent pleura covered with yellow sticky lymph. On squeezing the lung abundant thick yellow muco-pus comes from the smaller bronchi.

Stomach rather small but not definitely contracted. Mesenteric fat in moderate amount. Intestines normal but nearly empty. Other organs normal.

Conclusions.—Death has been due to broncho-pneumonia. There are evidences that the child has apparently eaten very little latterly.

Verdict.— *Neglect by parents not criminal in degree.*

Case 31.—K. E. female aged 1 year. Died unexpectedly in an immigrant train between Montreal and Quebec.

External Examination, May 29th, 1893. No marks of violence. Nothing externally to indicate the cause of death.

Upon questioning the parents, they stated that the child had had a cough during the voyage out and on landing at Quebec had been

exposed to severe cold. Did not appear to be very ill, but was suddenly seized with convulsions.

Conclusions.—The history obtained points to death from bronchopneumonia. There is nothing specially suspicious in the rapidity of the death.

This shows the difficulty of arriving at any result by external examination without being able to make inquiry into medical points; naturally an autopsy would have been more satisfactory but none was allowed.

Phthisis.

Case 30.—A. B., aged 30, known to be in the last stages of consumption, died on the train between Boston and Montreal; an inquest was held.

External Examination, July 19th, 1893. Body much emaciated; œdema about right ankle and the whole of left leg. Finger ends clubbed and nails incurvated. Hollowing under clavicles and dulness in R. infra-clavicular region. No marks of violence.

Conclusions.—The body is that of a person in the advanced stage of a chronic wasting disease.—apparently comsumption.

Case 26.—*Phthisis—Hæmoptysis from aneurysm of pulmonary artery.*—Unknown man (subsequently identified) found dying in the street with severe hæmorrhage from mouth and nose.

Autopsy.—April 29th, 1893. Body of a small, emaciated man about 40 years old. Recent blood stains about coat and shirt. Mouth filled with clotted blood. No marks of violence.

In thorax lungs project and appear inflated to an extreme degree. Numerous small areas of hæmorrhage into the lung tissue near the anterior margins (pulmonary apoplexy). Bronchi and trachea full of fluid blood and soft clot.

An old cicatrix at the right apex; at apex of left lung a cavity the size of an apple, with thick firm grayish walls, which are for the most part smooth but in places covered with a thick layer of shreddy loosely attached decolorized fibrin apparently the residue of former hæmorrhages. Projecting from the wall of the cavity is a small sessile aneurysmal projection as large as a cherry stone springing from a branch of the pulmonary artery the size of a goose quill. The walls of the aneurysm are very thin and flexible and a small laceration 2 mm., long is seen along its most prominent part.

An old cicatrix seen in the region of the cricoid cartilage, extending across the neck.

Case 23.—*Sudden Death from Pulmonary Embolism following Parturition.*—L. M., aged 17. Primipara. Was suddenly seized with convulsions and died almost instantly 8 days after the birth of an illegitimate child.

Autopsy, Feb. 23, 1893. Body well nourished. Breasts tumified and contained milk. A large larceration in perineum reaching nearly to anus. Surface granulating. Diaphragm at 3rd rib on right side and 3rd space on left. 100 cc. of clear fluid in each pleura. Heart, right chambers contain 200 cc. of fluid blood and clot, the latter not very adherent. Heart muscle flabby and gray-looking. Valves normal. No ecchymoses.

Lungs crepitant, Bronchi contain thick mucus. On slitting up pulmonary arteries, the middle sized branches found to be stuffed with lumpy gray rounded fibrinous masses. A large smooth rounded clot lies just beyond bifurcation. None of the masses adherent. Right lung in same condition, the obstructions being chiefly in the larger branches of the pulmonary artery. Spleen large and soft, 250 g. Kidneys together weigh 150 grammes. Uterus projects above brim of pelvis. Length 12 cm., from fundus to internal os. Placental site anterior, covered by a thick grayish diptheritic looking membrane. Slight fœtor. A few old erosions about cervix. Left ovary contains a corpus luteum 8 mm. in diameter. Pelvic and uterine veins free from thrombosis, as are also the iliac and femoral veins. In right saphena vein a soft grayish red adherent thrombus. Brain normal. Other organs normal.

A point of interest in this case was the source of the embolus in the saphena vein and not in the pelvic veins.

Heart Disease (3 Cases).

Case 79.—J. æt. 50, and dropped dead while sitting at work on an office stool. Said to have fallen with his face against a sharp piece of wood. Had been under treatment for the past 2 years for eczema by a physician of excellent standing who stated that he was ready to certify death as being due to heart disease, as he knew him to be suffering from aortic regurgitation. Recently the deceased had suffered from shortness of breath and præcordial oppression. Inquest held July 18th, 1893.

External Examination.—An irregular laceration 1 inch long and 1 inch deep beneath left malar process. No œdema. Præcordial dulness not increased.

Conclusions.—The external examination does not show the cause of death.

Case 38.—S. D., aged 51. Had suffered from acute rheumatism when a young man. Lately very short of breath, obliged to sit up at night owing to a feeling of suffocation. Had a cough. The day previous to death dyspnœa was very severe. Died during the early morning.

External Examination.—Finger ends clubbed, and nails incurvated. Œdema of both feet and ankles, none of face.

Conclusions.—The body shows marked evidences of chronic interference with the circulation, probably from heart disease.

In this case the external evidence of serious organic disease present, combined with the history, left little doubt as to the cause of death.

Case 77.—Mrs. G., aged 40. Found dead in bed. Had been in poor health for some time and was short of breath. Habits intemperate (?)

Autopsy.—July 15th, 1893. No signs of injury. Subcutaneous fat abundant. Heart larger than normal, chambers distended with blood. Left ventricle shows an extreme degree of hypertrophy and dilatation. Aortic and mitral valves show extensive fibroid changes. The middle and right aortic segments are fixed and perfectly rigid, being evidently incompetent. On the ventricular surface of the mitral valve just

beneath the aortic cusp is a projecting calcareous mass. Orifices of normal size. Heart muscle is of good colour, and shows no appearance of degeneration to the naked eye.

Lungs crepitant, moderately filled with blood. Pulmonary vessels free from obstruction. Kidneys considerably reduced in size. Capsules thickened and surfaces granular. Renal arteries very thick, with rigid, stiff walls. Mucosa of stomach thick and grayish red in color, its vessels intensely injected. Intestines, spleen, larynx and pharynx and brain normal.

Conclusions.—There is evidence of severe organic disease of the heart and kidneys, of a kind which frequently leads to sudden death. The naked eye appearance of the organs do not explain why the functions of the heart failed but there is nothing in the present case, except the condition of the heart and kidneys to account for the death and nothing to indicate that death is not due to this cause.

The verdict in this case was "death from paralysis of the heart," owing to my having unguardedly mentioned that this was the explanation usually given to the train of symptoms which preceeds death in those cases.

Subsequently, I made a microscopic examination of the heart muscle and found the condition of segmentation of the muscle fibres, known under the name of *myocardite segmentaire* which has been supposed to explain on objective grounds the failure of heart function in cases of sudden death, when the muscle appears perfectly normal to the naked eye. Though possibly only an agonal change it offered some further grounds for attributing death to the diseased heart in this case.

Granular Kidneys.

Case 72.—*Renal Cirrhosis—Uræmia (?) Ulceration of Colon—Multiple Sarcoma*—M. K., an elderly woman of intemperate habits. Refused hospital treatment and died in a state of great squalor. Inquest held.

Autopsy, Aug.. 8th, 1893.—Considerable emaciation. Skin rough and sallow. Surface anæmic. Marked urinous odor of body. No marks of violence.

Heart: right chambers distended with very pale, gelatinous clot which is partly colourless or in places very pale translucent red and evidently formed from extremely anæmic blood. Wall of left ventricle over ¾ inch thick. Muscle brownish, does not look fatty. Valves normal.

Lungs emphysematous, crepitant throughout. Organs of neck normal. Spleen normal. Liver small and brown.

Kidneys greatly reduced in size, weighing both together only 60 grammes or about one fifth of the normal weight. Capsules adherent and thickened. Surface rough and granular, on section cortex seen to be greatly reduced and the organs cut with greatly increased resistance.

Small intestine intensely congested throughout. Throughout large bowel, from the cæcum to the anus are found extensive ulcerated patches, the bases of which are covered with exuberant fungating granulations, having the appearance of new growth.

In the skull cap, numerous nodules of soft grayish tissue are scattered through the diploe and encroach upon the inner table which is in places completely absorbed. The masses range in size from a pea to a cherry and are evidently secondary deposits of a malignant growth. Brain normal.

Conclusions.—Death has probably been due to uræmia from cirrhosis of the kidney. The deceased was also the subject of cancer. The diseases present would ultimately have been fatal in spite of any medical treatment.

Microscopic examination showed the growths in the skull-cap to be lymposarcoma. Microscopic sections of the ulcers in the intestine showed no evidence of new growth. The diagnosis of uræmia as the immediate cause of death appeared justified from the fact of coma and convulsions having preceeded death. The anæmia was probably due to the cancerous disease of the bone marrow.

Cerebral Hæmorrhage (5 Cases).

Case 37.—*Cerebral Hæmorrhage—Congenital Cystic Kidney.*—A. L., aged 54. Became suddenly unconscious and died in a few hours on May 23rd, 1893.

Autopsy.—Both kidneys enormously enlarged, weighing 800 and 900 grammes each. They are transformed into a series of cysts set so closely together that no renal tissue can be seen with the naked eye. Ureters and bladder normal. Throughout the liver numerous small cysts ranging from pin head to peas in size and filled with clear fluid. Microscopically these are seen to be dilatations of the minute bile ducts.

On removing brain an extensive recent hæmorrhage is seen originating in the region of the left external capsule. The lateral ventricles are full of blood. The vessels at the base are not atheromatous. The smaller vessels examined microscopically are found to be fatty.

In this case the disease of the kidneys was so striking that this might have been thought to explain the death, had the brain not been examined. There was no history of any renal symptoms. The coincidence of cystic kidney with cysts in the liver is stated to be the rule.

Case 66.—*Rupture of Cerebellar Artery.*—J. C., aged 50, a saloon-keeper, dropped suddenly dead. Was a heavy eater and drank a good deal.

Autopsy.—June 28th, 1893. Heart greatly hypertrophied. Kidneys large, dark, hog-back in shape and cut with resistance.

Brain, extensive sub-arachnoid hæmorrhage about base, most abundant posteriorly, and evidently compressing the 4th ventricle. Vessels

at base thick and rigid. On the right anterior inferior cerebellar artery is an atheromatous patch, at which the vessel presents a lacerated spot of rupture.

Case 73.—*Cerebral Aneurysm.*—J. C., aged 45. Died suddenly in a brothel where she was an inmate.

Autopsy.—July 11th, 1893. On removing brain the entire base covered with a subarachnoid hæmorrhage extending along the sylvian fissures and over the inferior surface of the cerebellum. The 4th ventricle filled with dark clot moulded to the shape of the ventricle. Lateral ventricles free from clot. A yellow-brown area of softening 1 inch in diameter in the left external capsule near the head of the optic thalamus. The cerebral arteries thick and atheromatous with gritty calcified plates. On the inferior surface of the anterior communicating artery is a sacculated aneurysm the size of a large pea in which a laceration is seen. On the inferior surface of the right temporal lobe is a recent reddish spot of softening in the centre of which is a thrombus occluding a spot of laceration in the wall of a small artery. Heart large. Left ventricle thick. Kidneys below normal size, surfaces granular and cortex greatly reduced. Liver of average size, friable, and pale yellow; in advanced state of fatty degeneration and show calcareous changes. Both ovaries are surrounded by dense adhesions.

In this case it was of interest to note the existence of two hæmorrhages which must have occurred a week or so before the fatal hæmorrhage, without the acquaintances of the deceased having noticed any symptoms.

Case 74.—*Rupture of Sylvian Artery.*—N. P., aged 50. Died suddenly.

Autopsy—July 11th, 1893. A fine woolly looking white froth about nostrils. Over sternum is a mustard plaster, beneath which no sign of redness or vesication is seen. Lungs voluminous. Sub-pleural ecchymoses. Heart large, weighs 550 grammes. Left ventricle dilated and its wall hypertrophied. Below the cusps of the aortic valves is a rough calcareous yellow projecting mass, which almost occludes the orifice. On ventricular surface of mitral a few small recent fibrinous vegetations. Lungs œdematous, cut surface rusty looking. Bronchi full of froth. Near lower extremity of spleen a partly decolourized hæmorrhagic infarct the size of an egg.

Brain. On removal, an extensive dark firm clot covers the entire base. A little clot in 4th ventricle. The source of the hæmorrhage is seen to be a rupture of the right sylvian artery at a point where the vessel is extremely atheromatous.

Thus, in three out of the four cases, the source of the hæmorrhage was readily discovered, which is always a source of satisfaction in giving evidence. The verdicts in all the cases was of course apoplexy.

In some cases when the vessels are atheromatous it often is a point of extreme difficulty to determine whether a fatal

hæmorrhage has been due or not to some intervening act of violence involving a slight blow or a fall. This complication did not arise in my cases.

Abscess of Brain from Middle Ear Disease.

Case 63.—M. C., aged 9 months, an illigitimate female child. Had suffered from double middle disease in the foundling asylum, was afterwards removed by her mother and brought back in a dying condition. No satisfactory explanation obtained.

Autopsy, June 27th, 1893. Body well nourished. No signs of external injury. No discharge from ears.

On sawing through skull cap and brain at the level of corpus collosum, an abscess as large as a hen's egg, filled with greenish yellow pus, is situated in the right hemisphere, lying behind the fissure of Rolando, and has burst into the right lateral ventricle near the descending horn. The cortex external to the abscess is no thicker than a sheet of blotting paper. The abscess wall is formed of thick reddish gray pyogenic membrane. A little pus is found in the left lateral, as well as the 3rd and 4th ventricles. About the optic chiasm and sylvian fissures and over the cerebellum abundant creamy pus lies beneath the arachnoid. Hæmorrhagic infiltration of cortex in right temporal lobe. The internal ear, and on both sides, shows abundant reddish gray granulations, in which the ossicles are imbedded. Both drums are perforated. Mastoid antrum contains a little mucoid fluid. The right mastoid cells are soft and appear carious. Sinuses at base of skull normal. All other organs look healthy.

Still Births (2 Cases.)

Case 14.—*Cerebral Hæmorrhage in a new-born infant.*

Autopsy.—On an unknown male infant found at Côte St. Paul, on Feb. 24th, 1893. Body frozen, Length 18 inches. Weight 5 lbs. 2 oz. Cord ligatured with white cotton thread. Head obliquely flattened on the right side. A little vernix about armpits and groins. Meconium about anus. Scrotum large and œdematous. Testes descended. No signs of injury to scalp. Large, caput succedaneum in left temporal region. Bones of skull not broken.

At the base of the brain is a blood clot the size of a pigeon's egg, lying near the medulla. A little hæmorrhage about sylvian fissures.

Lungs dark red, contain no air, portions excised sink.

Stomach empty. Meconium in large and smaller bowels.

Epiphysis of femur shows a reddish vascular area, but no definite ossification. Hands and nails well formed.

Conclusions.—The child is not quite at term but is viable. There is no proof that it has breathed. Death has been due to cerebral hæmorrhage, there is no proof that this has not occurred during labour.

In this case I was obliged to examine the brain while it was still frozen, contrary to the usual directions laid down. I found the examination could be made very well in the frozen

state whereas as soon as thawing set in the brain substance melted into a grayish fluid. It has occurred to me that the examination of brain lesions when there is reason to expect softening from decomposition, might be better made if the the head were frozen and frozen sections made.*

CASE 52.—*Still birth. Syphilitic pneumonia and fatty degeneration of heart.—Maceration.*—Supposed case of abortion and infanticide.

Autopsy, June 8th, 1893. Immature male fœtus. 12 inches long. No marks of violence. Epidermis somewhat softened. Body appeared free from decomposition. Umbilical cord 2½ inches long, thick and gelatinous looking, well secured by cotton thread. Finger nails extend half way to tips. Toe nails not visible. Head measures 3¼ x 2¼ inches. Nostrils contain yellow mucus, mouth free. Stomach and small intestine collapsed. Meconium chiefly in sigmoid flexure. Heart muscle pale grayish-yellow, and looks opaque. Microscopically the fibres are filled with coarse granules blackened by osmic acid and soluble in chloroform. Valves normal, fœtal orifices open. Lungs, pale grayish white, feel solid and heavy, sinking in water. On section are dry and granular, alveoli are seen under microscope to be distended in places by small cell exudation (white hepatization). A little grayish mucus in stomach.

Brain, sylvian fissure seen as a broad groove. No other fissures visible.

A centre of ossification in calcaneum: bone in astragulus or sterum. Placenta not obtained.

Conclusions.—The body has not reached the sixth month. Death has been due to fœtal pneumonia with degeneration of the heart muscle, both probably syphilitic.

DEATH FROM UNKNOWN CAUSES (10 CASES).

CASE 101.—*Capillary Thrombosis of Brain.—Punctiform Hæmorrhages.*—J. S., aged 30. Out of sorts for some days but able to work. While at work was taken with vomiting and convulsions. Soon became comatose, and died within 36 hours. Urine was albuminous, passed in fair amount.

Autopsy, Aug. 21st, 1893. Body poorly nourished. No external marks of violence. Thoracic and abdominal organs apparently healthy. Microscopic examination of kidneys shows no evidences of disease.

Brain, on dissection shows, in the region of the basal ganglia and the internal capsule numerous (12) areas of punctiform hæmorrhage, giving the appearance, on section, of angiomata, the areas ranging from ½ to 1 inch in diameter. The main vessels of the brain look healthy and the organ appears otherwise normal. Miscroscopical examination of the hæmorrhagic areas shows the minute arterioles filled with hyaline thrombi and surrounded by extravasated blood, in which the corpuscles appear normal.

On being asked for my opinion I could only state that there

* Dr. Cattell, of Philadelphia (*University Med. Magazine*), has also recently called attention to the advisability of freezing the brain under these circumstances.

was extensive obstruction of the minute vessels of the brain with no evidence that this condition was due to violence, but that this did not satisfactorily explain the death.

A verdict of death from natural causes was returned. The case was a very puzzling one and a chemical analysis might have been interesting, but it was not demanded as there were no really suspicious circumstances, though the possibility of a toxic origin strongly suggested itself. The capillary hæmorrhages may have been the result and not the cause of the convulsions. The condition of capillary thrombosis seems analagous to that described as occurring in severe burns.

In the following two cases the deaths occurred suddenly in epiliptics.

Case 54.—F. S., aged 28, male. Found dead in bed. Had been treated at Montreal General Hospital for epilipsy. Recently, attacks had not been frequent.

External Examination, June 11th, 1893. Body of a well built muscular young man. Lividity marked in anterior parts of body, a few small irbices over chest and abdomen. Abundant bloody froth about nostrils.

Conclusions.—The cause of death cannot be stated from external examination.

Verdict.—Death from unknown causes.

Case 44.—J. C., aged 75. An old man subject to epileptic fits in which he lost consciousness, while at work mending roads, suddenly called for help and fell down. Immediately afterwards was found to be dead.

External Examination, on May 31st, 1893. Showed no signs of external violence or disease.

Conclusions.—The cause of death cannot be stated from external examination.

Verdict.—Death from Heart Disease.

(In the last case there was no history of heart disease and no facts to justify such a verdict being given.)

Upon being asked, in case 44, if epilepsy could be the cause of the death, I could only state that if after an autopsy no organic lesion could be found, this would be a presumption in favour of epilepsy, which is a functional disorder. Being asked if epilepsy was a common cause of sudden death I stated that it was not so regarded, apart from fatal accidental injuries received during the fits. (Of these we had two examples, both from drowning, during 1893.)

Upon looking into the subject more carefully I find that my statement, as to the infrequency of sudden death from epilepsy,

is in accordance with the views of all the medico-legal text-books I have been able to consult as it is nowhere mentioned as a cause of sudden death. This view appears to be taken in the special works on nervous diseases.

On the other hand in the Registratation Reports for Massachusetts, epilepsy is assigned as the cause of 112 deaths out of a total of 42,087, the total for the year 1888, is 1 to 374, and in 1887, 1 to 379. In 1891, the proportion was about the same being 1 to 364. In New York, for 1891, the ratio was 1 to 286. In Paris, Berthillon's Statistic for 1888 gives 1 in every 1,222 deaths from all causes as the proportion due to epilepsy. Of course the proportion of deaths from epilepsy among sudden deaths alone, would be much greater.

Lesser (*Vierteljahrschr. Gerichtl. Med.*, Jan. 1888), in an analysis of 171 autopsies in sudden deaths gives 17 as the proportion due to epilepsy. Wynn Westcott, (British Med. Jour. Oct. 17th, 1891), in an analysis of 303 cases of sudden death, mentions 8 cases where epilepsy was assumed to be the cause. Vibert reports a case where a marked congestion was found in the brain of a woman, supposed to have died in an epileptic fit. Of course a cerebral hæmorrhage might be brought on by an epileptic seizure.

That it is not safe to jump at conclusions as to causes of death was shown by a subsequent case (No. 106), where an epileptic girl, in whom the seizures were stated to have become alarmingly frequent had died shortly after a violent convulsion. In this case I gave the stereotyped evidence that the cause of death could not be stated without an autopsy and found afterwards upon making a private autopsy, advanced cirrhosis of the kidneys, the convulsions having apparently been uræmic and not epileptic. I do not think a medical witness is justified in ascribing death to epilepsy until he has satisfied himself by an autopsy that it is not due to some organic disease and even then the statement should only be that the symptoms point to epilepsy and nothing is found at the autopsy to indicate otherwise.

Debility (?)

Case 11.—F. G., aged 5 months. Stated to have died from neglect of her parents.

External Examination.—Great emaciation. Skin rough and loose. No signs of violence.

Conclusion.—The cause of death cannot be stated without an autopsy. The chances of recovery had a physician been summoned shortly before death would have been diminished by the previous ill-health of the child.

Verdict.– No criminal blame attached.

Case 95.—S. C., aged about 65. A feeble-minded old woman was lost sight of at a picnic and disappeared. The body was found in a thicket near-by 5 weeks later, and was quite naked, the clothing lying in a heap upon it.

Autopsy.—Aug. 16, 1893. Intense and far advanced putrefaction and denudation of head, and the soft parts of the face and neck have been almost entirely destroyed. These parts are swarming with maggots. No evidence of violence or injury.

The brain is represented by a cup-full of thick greyish fluid.

The muscles are deep red, resembling corned beef and are well preserved. Subcutaneous and omental fat abundant. The abdominal organs are almost free from decomposition and appear healthy. The stomach contains a little coffee colored fluid.

Heart empty. Lungs dried, and shrivelled, the air entering freely about the neck. Organs seem healthy.

Conclusions.—There are no evidences of violence, but their absence cannot be positively affirmed owing to advanced decomposition.

The cause of death cannot be stated.

The jury came to the decision that she died partly from fright and partly from exhaustion through having walked too far. This did not explain in anyway the curious part of the clothing having been removed. Dr. Ruttan kindly examined the viscera for mineral poisons, but with a negative result.

Case 85.—P. C., aged 87. Previously healthy. Found dead.

External Examination.—July 31, 1893. Shows no marks of violence and nothing to indicate the cause of death.

Verdict.—Died from Heart Disease.

Case 60.—M. G., female, aged 75. Died suddenly while in apparent good health and spirits.

External Examination.—June 19th, 1893. Body of extremely stout woman. No evidences of violence or disease externally.

Conclusion.—The cause of death cannot be stated without an autopsy.

In this case the jury having been firmly convinced that the deceased had died "*parce que le bon Dieu a voulu le rétirer de la terre*," returned a verdict of death from natural causes through that sense of propriety which keeps jurymen from finding fault with the decrees of Providence when doing so involves a loss of time.

Apoplexy (?)

L. C., aged 55, a large powerful man and free liver. Was found dead alone in his house. Had been seen apparently in good health two hours before.

External Examination.—Great lividity of face. Moderate œdema about ankles. Thin froth in nostrils.

Conclusion—The dropsy of the ankles indicates that diseased apparently suffered from organic disease of the heart or kidneys. The cause of death cannot be stated.

Verdict.—Death from natural causes.

In this case some medical evidence was given which is worth recording. A physician who was summoned after the man was dead had no hesitation in stating that apoplexy was the cause of death. He had not seen the deceased professionally for 12 years. The reason he assigned for the cause being apoplexy was that the deceased had a very short thick neck.

Case 24.—A. B., male, aged 48. Rather intemperate. Subject to epileptic fits. Recently had an attack of hemiplegia. Was picked up dying one frosty morning having lain on the road all night.

External Examination.—April 2nd, 1893. Recent scratches on backs of hands, forehead, left ear and chin. No other marks of violence.

Conclusion.—It is impossible to state the cause of death from external examination.

Verdict—Death from paralysis aggravated by exposure and intemperance.

Case 16.—N. C., aged 45, found lying out of doors in cold weather. Had been drinking the night before and had been seen with a comrade with whom he had quarrelled and fought. The companion disappeared for 20 days and afterwards was arrested and was the chief witness at the inquest.

External Examination.—March 14th, 1893. Contused lacerated wound over the left orbit. Behind the right ear there is contusion and abrasion of the skin.

Conclusion.—The external examination does not justify a statement as to the cause of death.

The bruising behind the ear is sufficiently suspicious to justify an autopsy.

No autopsy was ordered. The verdict of death from exposure being rendered.

In the deaths in this group of cases, it will be seen that when no autopsy was performed next to nothing could be affirmed as to the cause of death.

Probably of all the uses to which a medical expert can be put, the making of prefunctory external examinations is per-

haps the worst. The only justification of my official function in these cases is that of having said nothing when there was nothing to say. I may finish by mentioning the following verdict, given in a case where I was summoned but could not arrive in time for the inquest, and where the body showed extensive bleeding from the mouth :—" We, the undersigned, find that the deceased come to his death through being suffocated because he was too weak to raise himself from the mattress."

CASE OF PRIMARY ANGIOSARCOMA OF THE UPPER PORTION OF THE LEFT PLEURA.*

By James Stewart, M.D.,

Professor of Medicine in McGill University, Montreal, and Physician to the Royal Victoria Hospital.

AND

J. G. Adami, M.A., M.D.,

Professor of Pathology in McGill University, Montreal, and Pathologist to the Royal Victoria Hospital.

Cases of primary sarcoma, affecting either the lung or the pleuræ, are far from common, and the case which we are here about to record possesses, for us at least, a peculiar interest, inasmuch as a postive diagnosis of the condition was made during life. The patient, J. Van der Wee, a Belgian by birth, aged 35, had been for some years a glass blower. He first felt unwell in the beginning of February, 1894, experiencing constant pain in the left side of the chest. Shortly before admission into the hospital (upon the 7th of April) he suffered from frequent vomiting. Upon admission it was noticed that the upper portion of the left thorax presented very definite bulging, and from the third rib upwards upon the left side there was absolute dullness upon percussion, while auscultation over this area only gave a distant blowing breathing. Vocal fremitus was absent. The dullness and the auscultatory signs were the same both above the clavicle and above and around the upper portion of the scapula behind. While in the hospital pressure symptoms developed in the left arm, the left radial pulse was distinctly weaker than the right, and the difference was well shown in sphygmographic tracings obtained from the two radials; the surface temperature of the left arm was higher than that of the right, and there was pain extending down the inner side of the left arm.

During the last week of life the patient suffered from excessive vomiting, and was unable to retain any nourishment. Three days before death, which occurred on May the 5th, the patient was noticed to have become suddenly peculiarly anæmic, within 24 hours he became delirious, and although a few hours before death his condition seemed to be improved.

* Read before the Medico-Chirurgical Society, April 20th, 1894.

there was a return of the symptoms and he died with comparative suddenness.

The absence of vocal fremitus, complete dullness on percussion and the pressure symptoms, together with the absence of any marked expectoration, and again the absence of pulsation, led one of us (S.) to a diagnosis of sarcoma. On April the 15th, in order to confirm this diagnosis, an ordinary Pravaz syringe was carefully sterilised, the skin over the region of most considerable bulging, namely, over the second interspace on the left side in front, was washed and rendered aseptic, and in the presence of both of us, Dr. Deeks, the resident physician, passed the needle into the swelling and obtained without great difficulty several drops of fluid. This fluid was in the main composed of blood. In it could be seen small whitish or creamy masses of more solid material. The needle was immediately passed through the side of the cotton-wool plug of a tube of sterilised Glycerine Agar-Agar. A few drops of what remained in the syringe were immediately examined unstained under the microscope, but beyond plentiful red corpuscles nothing could be clearly distinguished ; later one of the small whitish masses removed from the surface of the Agar-Agar, and stained under the cover slip with a dilute solution of methylene blue, showed the presence of large numbers of cells of a size rather larger than that of ordinary leucocytes and with nuclei which instead of being rounded were of a blunt oval shape. Together with these cells there could occasionally be seen definite thin spindle-shaped cells with nuclei of a more elongated oval or spindle-shaped appearance, but more rarely there were to be recognized larger cells, three or four times the diameter of the cells which formed the main mass. These were filled with minute oily droplets, and had also a more pigmented appearance. It may be added here that the Agar tube placed in the incubator at 37°C. remained completely sterile, save that after several days there developed one small whitish growth which was found non-pathogenic and which was evidently a contamination from the air.

These cells were from their appearance neither pus cells nor the products nor the accompaniments of any form of chronic inflammation ; their appearance entirely tallied with that of a sarcomatous nature, and it was held that here there could

be none other than some rapidly-growing oat-shaped cell or oval celled sarcoma present, and in fact the patient was brought before the Montreal Medico-Chirurgical Society upon April the 13th, and the condition was there demonstrated as being one of sarcoma of the lung, or pleura.

At the autopsy performed upon May the 6th, the body was found to be that of a well-developed adult, of medium size, with no signs of emaciation or œdema. There was no difference to be noticed between the two arms, either in circumference or in other respect. The head was not examined. Upon opening the thorax a large soft mass was discovered extending from the very upper extremity of the left side of the thorax down to the level of the sixth rib in the left mammary line. At the level of the second rib the mass extended from the junction of the second rib with its cartilage on the right side across the whole of the left chest. Below this level its edge slanted obliquely towards the left nipple and to the level of the sixth rib as above mentioned. The upper portion of this mass, down to the level of the third rib, was apparently firmly adherent to the costal pleura, so that in order to remove the growth in part this had to be dissected off from the ribs. Below the level of the third rib the wall of the capsule appeared to be thinner; it was of a dark bluish colour and resembled a cyst containing blood. The heart was displaced downwards, and to the left the right lung showed slight adhesion along the fourth rib, behind and forward, as far as the anterior axillary line. Upon removing several inches of the upper ribs upon the left side in order to dissect out the tumour in part it was found that the intercostal humeral nerve passed down from the pleura within the thoracic cavity, that is to say, to the inner side of the ribs, and that it appeared to be enmeshed or implicated in the capsule of the growth, emerging laterally between the second and third ribs. The first and second ribs of the left side were slightly eroded as far as their cartilages, the third as far as the axillary line, the fourth as far as the angle.

Upon removing the greatly enlarged left lung, the mass upon the upper and anterior surface was found to be peculiarly soft, and so soon as the capsule formed by the costal pleura was cut in two, a large amount of soft semi-fluid material of a dark purple color easily passed out through the openings

made. As much as 700 cubic centimetres of this material was taken out at the autopsy, and a quantity almost equal in amount was still left within the sac removed at a later period. Save that some portions of this material were of a slightly denser consistency, the whole might have been taken for soft breaking down blood clot.

Upon cutting up the bronchi of the left lung, and passing a probe down the various smaller-sized bronchi of the upper portion of the lung, no communication could be detected between these and the tumour mass, and careful examination showed that this mass lay in the pleural cavity above and anterior to the upper lobe of the left lung. There had evidently been an old chronic pleurisy of some standing, causing adhesion between the upper lobe or the lower boundary of this lobe and the costal pleura, and it was in the sac formed thus between the two layers of the pleura over the upper lobe that a tumour had developed and had extended. The upper lobe itself was greatly compressed, the lower lobe showed compression to a lesser extent; the right lung was smaller than normal. It presented a certain amount of emphysema. At its apex were three or four old calcareous tubercular nodules well encapsuled. The pericardium contained an ounce of slightly blood stained fluid, the heart showed no signs of inflammation, the valves of the heart in general were normal, the abdominal organs presented nothing calling for special remark in this connection. No secondary growths could be recognized by the naked eye in any of the organs.

Upon examination of portions of the softened mass of the tumour, carefully selected from various areas, and hardened either by placing in boiling water for one minute or by Müller's fluid, it was found that the lower edge of the tumour mass was almost entirely, if not quite, pure clotted blood; portions rather denser in their consistency originally, but still equally blood-stained, presented a very interesting condition. They were found to be formed of lobules of sarcomatous tissue, whose cells showed up very well by contrast staining, either with methylene blue and eosin, or with hæmatoxylon and eosin. Running in various directions through these lobules of sarcomatous tissue were greatly dilated vessels of a purely

embryonic type, with walls so delicate that the flattened cells forming them could only here and there be recognized. Immediately around these vessels the sarcoma cells were more densely arranged ; these cells were identical in appearance with those that had been removed by the hypodermic needle. They were slightly oval, their nuclei were also oval and stained well, and they were definitely larger than, in fact almost twice as large as, the leucocytes which could be seen here and there lying within the vessels. Away from the vessels the cells became more loosely arranged, and here and there stained badly, inasmuch as lobules were separated from each other by very extensive effusion of blood, and this extravasated blood appeared to be causing the destruction of these outer layer of cells, the extravasation extending in between them.

Careful study of sections taken from various points over the surface of the upper lobe of the left lung led to the conclusion that the tumour had not originated from the visceral pleura ; in general the tumour mass could be easily removed from the surfaces of the lung, leaving this relatively smooth and glistening. On the other hand, sections through the costal pleura from the level of the second interspace upwards showed that here the pleura had undergone great fibroid thickening and that it was infiltrated by masses of sarcoma cells. It would seem evident, therefore, that the tumour had orignated, not primarily in connection with the lung, but in connection with the costal pleura.

This condition presents very many points of interest ; it confirms the diagnosis that had been made intra vitam. The rapid growth of the tumour and the erosion of the upper ribs, indicate that in its development this tumour had pressed upwards and had thus affected both brachial and nerve supply. The fact that the tumour was extra pulmonary, will explain the remarkable absence of direct pulmonary symptoms observable during life ; while the character of the growth is fitted to throw light upon the symptoms which immediately preceded death. As we have mentioned, the tumour was of a peculiarly vascular nature ; even those parts which were found to stain so well, and which showed most clearly the sarcoma-

tous nature, were when removed from the body, of a consistence scarcely firmer than that of recent blood clot, tearing apart with great ease. In addition to this natural softness of consistency on the part of the tumour, there had evidently been a very great amount of hæmorrhage into the growth, so that the tumour in its lower part was nothing but pure blood clot and in the rest of the area was a mixture of blood and sarcoma tissue.

The question arises, had these hæmorrhages been continually occurring during several weeks, or had there been one great and extensive hæmorrhage, which coupled with the breaking down of the neoplasm, may be looked upon as having been the one immediate cause of death. Undoubtedly there had been a certain amount of hæmorrhage and breaking down of the tumour some weeks before death. This alone is capable of explaining the presence of the occasional large leucocytes, or, if the term may be employed, "Staubzellen," which were found at the time of the exploratory puncture in April, large cells containing the debris of the fatty degeneration of the sarcoma tissue, together with a certain amount of pigment derived from extravasated blood. But we are, notwithstanding this evidence, inclined to believe that shortly before death a most extensive hæmorrhage had occurred, for this alone will account for the sudden onset of extreme anæmia, which was noticed three days before death, and the almost equally sudden low delirium which ensued. That this hæmorrhage was in itself sufficient to account for death we will not say, but it had led to extensive breaking down of the sarcoma tissue, and this hæmorrhage, breaking down of the tissue and absorption of the products formed together, in our opinion, a sufficient cause.

Case Reports.

A VAGINAL NEUROSIS (?)

By Stanley S. Cornell, M.D., C.M., Athens, Ont.

Mrs. A., a methodist minister's wife, aged 42 years, consulted me in the summer of 1892 for relief of symptoms pertaining to vaginal discomfort, manifested by sensations of heat and burning, generally constant, and aggravated by sexual intercourse.

History.—At the age of 37 years the menopause had been completed. The time occupied in this process of change I have forgotten. The patient married at her 32nd year, and has remained sterile. She encountered the usual difficulties experienced by virgins in the acquirement of perfect sexual relations with their husbands, but had enjoyed freedom from pain in coitus for a period of eight years. At her 40th year the patient observed that intercourse was accomplished less easily than it had been, the impression arising before herself and husband that a "tumour" obstructed the vagina. Two years later she came to my office for treatment.

Physical Examination.—The patient is about 5 ft. 5 in. in height, and weighs 130 lbs. Her complexion is light, hair light brown, bones small, muscles but moderately developed, and body somewhat emaciated. Systemic anæmia is apparent in the pallor of the oral and conjunctival membranes of the skin, and by certain general symptoms characteristic of that affection. Examination fails to give evidence of disease—involvement of the lungs, heart, kidneys, brain or spinal cord.

Genital Organs.—1. Vulva normal in the relation of its parts; the internal surfaces of the labia majora hyperæmic and dry, but not hot.

2. Hymeneal remains existing as roughened protuberances, pinkish in color.

3. Vaginal orifice and cavity small; vaginal membrane dry, of normal temperature, preserving its cristae, and exhibiting the changes of involution.

4. Cervix uteri lying high within the vagina, and presenting

a normal lining membrane ; the cervico-vaginal membrane showing the same coloration as the membrane of the vaginal walls.

5. Uterus retroverted, and involuted to the degree of possessing infantile characters. Its cavity measures one inch by the sound.

By the speculum, the vaginal membrane was observed to be flushed, pink longitudinal and circular areas existing over the anterior and posterior walls, and free from mucus. These are all the changes that were detected by the eye.

The case seemed to possess characters that depended upon one possible factor for the production of difficult intercourse, viz., insufficient vaginal secretion to permit easy introduction of the penis, and probably included a disproportion in size between the sexual organ of the husband and the vagina of the patient.

It is significant that during the active change of the patient's menopause, vaso-motor phenomena were but little pronounced ; she had experienced slight flushings, but had never observed localized perspirations, nor numbness, prickling, or tingling.

The patient was neurotic in her tendencies ; she has been subject to back ache, leg ache, feelings of weakness in the lower extremities, and easily induced mental exhaustion. Her education had been conducted toward the comprehension of the arts, her schooling perfect, and her home a comfortable one.

Married to a man ten years her senior, harassed by the anxieties incident to a moderately paid clergyman's life, meeting with social discouragement, but endeavouring always to cultivate agreeable relations with those much less advanced than she—it was inevitable, under the further condition of difficult sexual procedure, that the patient should become distinctly nervous in her disposition.

At this time I was convinced that I had to treat a case of vaginitis, the management of which suggested itself as including residence apart from the husband for a variable period, correction of anæmia, and astringent applications to the vagina.

Blaud's ferruginous pills were given after meals, and zinc sulphate solution (gr. ii — ℥i) was twice a week applied to the vagina with strong atomizer pressure.

After the lapse of three weeks, improvement appeared to advance locally and generally ; the patient became cheerful, visited numerous friends, and drove many miles quite frequently. The local improvement was observed as a subsidence of vaginal hyperæmia and tenderness, the vaginal membrane becoming paled.

Mental depression—strongly marked at the beginning of treatment—being now superseded by cheerfulness of disposition, and the relief of such general symptoms as fatigue, pains and aches, being evident, I felt much encouraged to dismiss the patient, and enjoined the use of the hot vaginal douche and the continuation of the ferruginous pills.

The uterus, in its condition of complete involution, could not have exercised an obstructive effect upon the blood flow of the vagina ; consequently its replacement was not considered an essential of treatment.

The patient returned home, two hundred miles distant, and remained quite well during two whole months, when she wrote that the symptoms of which she had suffered before undergoing treatment had reappeared : vaginal heat and tenderness were becoming intolerable, and general lassitude rendered her unfit to accomplish home or church duties.

The patient again came to my office, and I noted that the general and local conditions were as they had been at the outset of my attendance. But there had arisen another factor to further torment this poor woman—sexual intercouse had become impossible.

Inquiry was now advanced toward the existence of vaginismus ; this was not manifest to the finger ; the vagina, although diminutive from involution, easily admitted the Sims speculum No. iv. Vaginal dryness was not causative of the condition of sexual difficulty, inasmuch as a secretion of mucus could be induced by light friction of the vaginal wall.

Sexual failure did not result from incompetency of the husband, who is a vivacious healthy man, but in all likelihood occurred because of the patient's fear of painful contact.

The facts that vaginismus was absent, vaginal secretion would

form after irritation of the vaginal walls with the finger, and that the vagina was not less roomy than it had been before treatment, seem to support this view.

Addressing the treatment now to requirements quite different from those at first evident—endeavouring, indeed, to satisfy the patient's conception that closure of the vagina was the element of difficulty that must be dealt with—I practised vaginal dilatations every second day.

The method of dilatation employed was this : The patient was placed upon the plane surface of the examining table, with legs well drawn up ; the Cusco speculum was introduced within the vagina with blades first in contact with the anterior and posterior vaginal walls, and next against the lateral walls. In these relations the speculum blades were slowly separated to their greatest extent, the distension of the vagina occasioning a sense of extreme stretching.

What the physical effect was, in addition to the unavoidable compression of many of the dilated vaginal blood-vessels, I do not know ; the psychical result was gratifying, in that the patient believed herselt to be undergoing rapid recovery. Her temperament assumed continued cheerfulness, and freedom from previously existing vaginal sensations predominated.

At this time I noticed a gradual paling of the vaginal membrane,—a physical change not dependent upon the speculum compressions, which were neither uniformly distributed over the vagina, nor continued longer than a week and then at intervals of every second day. The assurance that permanent enlargement of the vagina would follow the stretching process seemed to exercise a direct effect upon the vaginal vascular supply by relieving the patient of all apprehension directed toward future difficult intercourse.

At this period of my conduct of the case, the patient's father became much reduced through the changes of a long-standing arterio-sclerosis. This circumstance brought the patient into a constant worry for her family's domestic outlook, and coincidently the vagina resumed its accustomed blush, and with it came that disordered sensibility designated " distress."

The treatment consisted of constitutional remedies, iron, arsenic and strychnine, and the tri-weekly vaginal insufflation of powdered bismuth subnitrate, tannic acid, camphor and acacia, alternated occasionally with a dry cotton tampon. Notwithstanding the faithful employment of these measures, the vaginal appearances were those of blushing and pallor—the former if the mind were depressed, and the latter if the spirits were in the ascendant.

I wish to demonstrate at this stage of the treatment, which was continued four months, that the affection of the patient was a neurosis ; and I propose, in substantiation, to show that the vascular changes in the vagina were too rapid, and too plainly indicated the relation between cause and effect, to permit their being classed as belonging to vaginitis.

It is necessary to state that the patient was of an affectionate disposition, and the progress of her father's illness had much to do with her own advancement or retrogression in health. The father had grown weak, his skin giving out a urinous perspiration, and the urinary secretion becoming reduced to two fluid ounces a day ; his intelligence became more and more blunted, and uræmia might at any time result in his death. It was during this ordeal, involving filial anxieties, I concluded that the patient's affection was purely a vaginal neurosis aided in its developments by neurasthenia.

When the father's intelligence dimmed, and the indications of speedy death were present, the local neurosis of the patient manifested its typical characters in pink blushing in longitudinal and circular areas upon the walls and in the fornices of the vagina ; contrarily, when the father aroused from his semi-stupor, and other favourable marks in his case were apparent, the vaginal changes advanced toward a paling of the membrane.

Observing that the affection depended for its existence upon the state of the patient's temperament, I applied no further local treatment, but insisted upon bi-weekly consultations. With the varying health of her father—now better, then worse—the flow and ebb of the patient's vaginal blood-supply kept pace. Finally the patient's father improved, at which juncture

her mother died suddenly ; coincidentally local disturbances subsided, because the subject of this history had just reason to forget her own illness in view of the calamity that had so suddenly fallen upon her house.

The vagina paled once more, itching, burning and sensations of " uneasiness " were gone, and I gladly bade adieu to the patient.

Two reports received 2 and 3 months after her return home assured me that improvement was progressive, intercourse being no longer a difficult factor in her life's work.

Bearing an important relation with the vaginal disturbances, of which the patient gave me the history, was the condition of neurasthenia ; back ache, leg-ache and shoulder ache had played their role in association with head-ache, mental fatigue upon slight intellectual effort, and general muscular tremor. " Tinglings," " crawlings," " pins and needles," and localized perspiration had never been experienced by the patient ; apparently these characteristics of disordered sensibility had localized themselves in the vagina.

March, 1894.—The patient reports herself as being quite well.

Differential Diagnosis—From Vaginitis—In vaginitis a serous or sero-purulent discharge is usually present ; in the case described, no discharge was observed, except such slight show of mucus as was noticed after irritation of the vaginal walls with the finger. In vaginitis, epithelial abrasion is detected at some stage of the disease ; in the case under consideration, no epithelial loss occurred. In vaginitis, dilated blood vessels are visible coursing through the membrane ; in the case treated upon, individual dilated vessels were not seen —there existed areas of blushing, alternating with pallor and normal hue.

Reviews and Notices of Books.

Essentials of Practice of Pharmacy. Arranged in the form of questions and answers prepared especially for Pharmaceutical Students. By LUCIUS E. SAYRE, Ph. G., Professor of Pharmacy and materia-medica of the School of Pharmacy of the University of Kansas. (Second edition revised), pp. 200. Philadelphia, W. B. Saunders, 1894.

This is one of the "question-compends" issued by this firm. While it is open to many of the objections raised against this form of book, it is decidedly better than the usual quiz, it is fuller and contrives to convey more information than is usual in the categorical answers given to the questions asked. The student will find it very useful provided it does not lead him away from his standard text-books.

The Medical Chronicle. A monthly record of the progress of Medical Science, conducted by the Professors and Lecturers in the medical department of the Owens College, Manchester. Edited by W. J. Leech, M.D., and W. J. Sinclair, M.D. Manchester, John Heywood. Subscriptions, 12s. 6d., payable to A. H. Young, Dean of the Medical School, The Owens College, Manchester.

We take the opportunity afforded by the commencement of a new series to call the attention of our readers to this excellent journal—a journal which in its especial line may safely be said to have no equal—and one which, had it been published in London instead of in the provinces would long ago have obtained a world wide recognition. As it is we have heard it referred to as the model English medical journal by leaders of the profession in America as on the European continent.

The important feature of the Medical Chronicle is that it fulfils its title. Each month's number contains from thirty to forty pages of critiques upon the most important articles of recent publications in all branches of medicine and surgery. The writers of this chronicle do not merely give an abstract of the contents of each article, but whether they treat of a single paper, or, as is more usual, deal with several papers upon closely related subjects, they carefully criticise the results

obtained by various workers, so that each number of the journal in question contains a series of essays, short but none the less valuable, signed by the writers, upon the topics which are interesting the medical world for the time being. Other medical papers give, it is true, occasional articles summing up the advances made in one or other branch of one subject, and indeed without undue pride we consider that the various retrospects given in this journal and signed by their authors have contributed much to its popularity and good standing with the profession; but the Medical Chronicle makes such the main feature, and in this way has become of the greatest value to those who wish to keep abreast of the latest work in medicine generally or in their especial department. It must be added that the original articles, mainly tho' not entirely by members, past and present, of the Manchester Medical School are of a high standard. Of these we would more especially refer to the excellent series of articles that have appeared during the last nine years upon diseases of the nervous system, by such authorities as the late James Ross and Dietchfeld, and their pupils Thorburn, Reynolds, Bury and Williamson.

The new series indicates a significant change in the method of conducting the journal, which from being a private publication has now become the organ of the Owens College, and is henceforth to be conducted by the Professors and Lecturers of the Medical Department of the College. Thus to mention the senior members only, Dietchfeld, (Medicine); Thomas Jones, (Surgery); W. J. Sinclair, (Obstetrics and Gynæcology); Leech, (Pharmacology); Dixon Mann, (Medical Jurisprudence); Arthur Ransome, (Public Health); W. Stirling, (Physiology); and Young, (Anatomy); became all members of the editorial committee.

The first number of the new series contains original contributions by Dietchfeld on a peculiar form of idiopathic intermittent fever of pyæmic character with record of three cases, by Thomas Jones on Cancer of the Rectum and its treatment by excision in which Kraske's method of removing the cœcyx and lower part of the sacrum is strongly recommended, and by Sinclair on Ventrofixation of the uterus. The main items of the Chronicle are, in medicine a review of articles upon

Syphilitic Spinal Paralysis by Erb, Kuh, Oppenheim and Lamy; in Pathology of articles upon Myxœdema, Cretinism, Acromegaly, Exophthalmic goitre and allied Cachexias, by Boyce and Beadles, Putnam, Williams, Greenfield and Marie, together with a retrospect upon English and American Bacteriology in 1893; in Pharmacology an article upon the treatment of rabies by the serum of immune animals; in diseases of children, a review of articles upon the feeding of infants, by Rotch and Holt; in Physiology, a review of the recent researches on the physiology and histology of glands.

Our commendation of this excellent journal may seem to be extreme; we have however known it so long and have found it of such high value that we have no hesitation in awarding to it our highest praise, and in recommending it to all who desire to keep level with the advances of modern medicine.

Robley Dunglison, M.D., LL.D. A Dictionary of Medical Science. Twenty-first edition, thoroughly revised and greatly enlarged, by Richard J. Dunglison, A.M., M.D., pp. 1181. Philadelphia: Lea Brothers & Co., 1893.

That this dictionary has reached its twenty-first edition is sufficient evidence of its worth and popularity, and renders any formal introduction of it to our readers quite unnecessary. Nevertheless, while the Dictionary itself is so well known on this continent, it deserves mention that the present edition is an advance upon its predecessors in several respects. The new subjects and terms treated are no less than forty-four thousand, sufficient in themselves to fill a large volume. There has been a praiseworthy attempt to render the work an epitome of the existing condition of medical science. Thus to take an example under the heading Hernia, besides the definition of the condition, a condensed table is given of the various forms, and a brief resumé is given of the therapeutical indications; under the heading Murmurs, besides a description of the various forms, a table is given of the significance of the murmurs of valvular origin; under Bacteria, the leading classifications of Naegel, Zopf, Baumgarten and Cohn are recorded, and a paragraph is devoted to the question of the determination of the pathogenic properties, another to modes of culture of the bacteria. In addition, the work is for the first time

made a pronouncing dictionary, and on the whole the pro nunciation given is that which will satisfy those on both sides of the Atlantic, though that words in it which have become thoroughly incorporated into the language should, by the compiler and by so many others, be still pronounced as though they are distinguished foreigners is a matter for regret.

Canadian Medical Literature.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian works published in other countries) for notice in this department of the JOURNAL.]

PERIODICALS—MAY, 1894.

DOMINION MEDICAL JOURNAL.

(1.) Treatment of lateral curvature of the spine by non-restriction and development methods—B. E. McKenzie, p. 127.

CANADIAN PRACTITIONER.

(2.) The study of anatomy by frozen sections—A. Primrose, p. 319.
(3.) Diagnosis and treatment of chronic urethral discharges—E. E. King, p. 331.
Cases in practice—B. E. McKenzie, p. 349.

ONTARIO MEDICAL JOURNAL.

(4.) Mistakes in practice—Geo. Hodge, p. 347.

L'UNION MÉDICALE DU CANADA.

Metrorrhagia from fibroids arrested by a single cauterization by chloride of zinc—Chas. Verger, p. 225.
(5.) Clinical lectures upon injuries of the eye—A. A. Foucher, p. 319. (Continued.)

MARITIME MEDICAL NEWS.

(6.) Adenoid growths in the pharyngeal vault—E. A. Kirkpatrick, p. 279.
(7.) Carcinoma of the stomach—C. A. Foster, p. 284.

(1.) The use of gymnastics and intermittent pressure correction is recommended instead of the ordinary treatment by continuous employment of braces.

(2.) Dr. PRIMROSE has used photographs of frozen sections for teaching purposes, projecting them on a screen by means of a lantern. By this means the material is demonstrated to a large class, who afterwards have opportunities of studying the sections themselves.

(3.) The use of the simple endoscope, with illumination by a hand mirror, is recommended to those who have not at their disposal the new expansion electrical apparatus.

(4.) Dr. HODGE gives much excellent advice, illustrated by numerous examples. He favours strongly a good and thorough system of routine examinations as the greatest safeguard against error.

(5.) Rupture of the sclerotic from blows of the fist are instanced. A case is reported where dislocation of the lens was produced in this manner. In one case of contusion by the horn of a cow, symptoms of sympathetic ophthalmia developed themselves in spite of the absence of any wound, and enucleation had to be practised. In one case where a violent shock was received while telephoning during a thunderstorm, abundant hæmorrhage in the anterior chamber was observed, and after this was absorbed, sub-retinal hæmorrhages were detected. This was followed by detachment of the retina and the vision was permanently reduced to $\frac{5}{50}$. The necessity of caution in giving medico-legal opinions as to the ultimate effects of traumatism of the eye is insisted upon.

(6.) The symptoms and result of treatment in 48 cases are tabulated. The treatment followed was extirpation, usually under chloroform. Cocaine was used in five cases only.

(7.) The case recorded occurred in a man aged 30, and the illness lasted two years. At the autopsy the growth was found to be scirrhus and situated in the pylorus. It had invaded the diaphragm, pancreas and liver. No mention is made of secondary nodules.

CANADIAN VITAL STATISTICS.

Census of Canada, 1891. Bulletin No. 14. Mortality. Bulletin No. 15. Causes of Death. By George Johnson, Dominion Statistician.

These statistics were compiled by adding a death schedule to the census returns and offering the enumerators 3 cents for each name of a dead person recorded in the schedule. For the deaths recorded this represented a total of $2,003.64, certainly not an exorbitant sum. In addition forms were sent out to all the medical men whose addresses could be found. The number of these filled and returned, though not so great as could be desired, still sufficed to check the returns of the enumerators as to causes of death, upon which point the popular mind "is very apt to be limited to some few general terms without the specific names which mean so much to medical men."

The result was that 67,888 deaths were registered, a rate of 14.10 per thousand or 1 in 71, for the twelve months ending April 6th, 1891, contrasting well with the death rate of

England and Wales, which was 19.5 per 1000, or 1 to 51 living, and better even than Australia which has a death rate of 15 per 1000, or 1 to every 70. The accuracy of these returns was tested by comparing them with the Ontario statistics (which are obtained by registration,) the result being that the numbers tally almost exactly both as to total deaths, deaths of children under 1 and under 5 years, and relative proportion of males and females.

It is curious to note that in Quebec the death rate among Protestants was 10.8 per 1000, while that among Roman Catholics was 20.1 per 1000. In Ontario the deaths among Roman Catholics was 14 per 1000, and among Protestants 10.8 per 1000. If correct, this is a matter which merits earnest attention from the church authorities.

The number of births during the same period was 135,843, or 28.3 per 1000 and thus making a surplus of 100 per cent. over the death rate, the birth-rate being highest in Quebec, 36.86 per 1000, and lowest in Ontario 24.50 ; P. E. Island 24.45 and British Columbia 23.16. We pass over a variety of interesting data and calculations which are given, to consider the second half of the report dealing with the causes of death.

The system of nomenclature followed is that adopted by the Registrar General of England.

The number of deaths for which no definite cause was assigned was 10,800 or 7½ per cent., as compared with over 28 per cent. in 1881, which, from a statistician's point of view, is highly satisfactory.

The calculations are made for the most part in units of per thousand, or per million living ; this, though it lacks the uniformity given by the continental system of always adopting the unit of ten thousand is probably more calculated to render the results intelligible to persons who are not statisticians. One can readily form a concrete idea of a population of one thousand or one million, but ten thousand is to most persons a purely abstract quantity.

Compared with England, Canada shows a higher death rate from zymotic diseases, (which would probably be higher still

if the returns were accurate) as will be seen from the accompanying table.

	CANADA			ENGLAND.
Causes of Death.	Total Deaths.	Percentage of Different Causes.	Rate per Million Living.	Rate per Million Living.
Zymotic	15,764	33.22	3,283	2,541
Parasitic	78	0.13	16	24
Dietetic	35	0.06	8	81
Constitutional	9,310	13.72	1,940	3,374
Developmental	6,818	10.04	1,420	1,611
Local	22,492	33.13	4,685	10,364
Violent	2,391	3.53	498	653
Not Specified	10,800	7.55	2,248	900
Total	67,688	100.00	14,098	19,548

For an equal number of living persons there were 1,064 deaths among males and 1000 among females. The death rate among males exceeded that of females in zymotic, local, violent and unspecified causes, while that among females preponderated in constitutional and developmental diseases.

Phthisis is stated to have caused 7,490 deaths, or 10 per cent. of the total, being at the rate of 1.55 per thousand living.

It may not be out of place to call attention to what we consider the defects in this report, and in this connection it may be said that it would perhaps have been of practical utility had the compiler taken pains to state plainly the weak points of these statistics and so warn his readers against being misled.

In the first place the system of classification employed by the Registrar General of England, still follows very closely the nosological tables prepared by the College of Physicians some thirty years ago. These, though excellent in their day and far in advance of previous nosological systems, have now become decidedly antiquated, and while there may be reasons for their being retained in a country where they have long been used, it hardly seems advisable for Canada to adopt them. Although no doubt an absolutely perfect classification of diseases is at present unattainable, yet the importance of studying the results of sanitation upon preventible infectious diseases would justify the use of some mode of classification

which would tend to place this class of deaths together instead of separating them and mixing them up with non-infectious diseases.

The system followed in the census bulletin places "all diarrhœal and catarrhal affections" among zymotic diseases. Parasitic diseases are stated to include (*a*) thrush, (*b*) worms and other parasites. This class furnishes only about one-eighth of one per cent. of the total mortality and we fear the cases which make it up are based largely upon wrong diagnoses.

Dietetic diseases, which comprise only 35 deaths in all or one twentieth of one per cent. of the total mortality, also form a separate class. This class is subdivided into three groups, viz., privation of food, 8 cases; scurvy, 3 cases and alcoholism, 24 cases. Now if alcoholism is so extremely rare, one is inclined to think that there is far less need of temperance legislation than has been generally supposed. Of the 24 victims of drink, 23, we blush to say, were of the male sex, while (tell it not in Gath) more than half, including the lady, were residents of Ontario; and in the Northwest, that land of the prodigal son and the Indian given over to fire-water, not one single death resulted from this cause.

Out of 6,815 deaths from developmental diseases 4,310 are put down to old age, which thus causes over 6 per cent. of the entire mortality, a greater number than the combined deaths from diphtheria and typhoid.

Under local diseases, it is stated that only 58 deaths occurred from uterine and ovarian diseases, and only 25 females died of peritonitis, while appendicitis is not even mentioned.

Among violent deaths from causes other than criminal, 48 only are given as the result of fractures and contusions, apart from the 183 fatal railway accidents recorded.

In deaths due to criminal violence, there were recorded 80 suicides, the number assigned to the province of Quebec, being only two-thirds of the annual number observed in the coroner's court of Montreal alone. In addition there were 3 judicial executions, 16 homicides *and no infanticides!*

Of sudden deaths from unknown causes, we find only 59 given for the whole of Canada.

The examples we have given have a decided tendency to shake our confidence in the census as a means of obtaining

mortality statistics, and while the arithmetical accuracy of the statistics, and the clear and concise manner in which they are set forth leave little to be desired, it is a matter of regret that the statistician has not been furnished with more reliable material to work with. It is self evident that mortality statistics, to be accurate, must be collected in the first instance under strict medical supervision, and we hope that before the next census some efficient system of registration and death certification may be in force.

BACTERIOLOGICAL ANALYSIS OF CANADIAN WATER SUPPLIES.

By E. B. Shuttleworth.

We see in the Toronto *Evening Telegram* of May 10th, 1894, a report of some biological water analyses, made at the order of that journal, by Prof. E. B. Shuttleworth, of Trinity College. The object was to determine the relative purity or impurity of the Toronto water supply as compared with that of other Canadian and American cities. The exact test adopted is difficult to make out from the report of the analyst, but, as we understand it, consisted in the estimation of the number of bacteria colonies per cubic centimetre growing from samples of water, which had often been shipped some hundreds of miles before it was examined.

The results obtained were as follows:—

Water from	Colonies per cc. at room temperature.	Colonies per per cc. at 40°C.
Buffalo	130	5
Barrie	160	2
St. Catharines	365	6
Hamilton	455	2
Peterboro	520	5
Rochester	600	4
New York	685	13
Belleville	705	5
Ottawa	710	3
Toronto	970	5
Guelph	1035	6
Quebec	1045	6
Berlin	1380	57
London	1820	4
Montreal	1895	12
St. Thomas	1970	2
Collingwood	2265	2
Walkerville	2360	54
Windsor	2620	71
Lindsay	3470	18
Stratford	3570	14
Goderich	5330	6
Detroit	5510	152

According to this table, the water supplies of Toronto and Montreal occupy an intermediate position in the scale, the Toronto supply being, however, somewhat the better of the two, both as regards the total number of bacteria and those germs capable of growing 40°C., and therefore having more affinity to the germs of disease than to the water bacteria. It may further be stated that none of the waters tested, showed any alarming evidence of pollution. As far as concerns the question at issue, viz., the purity of the Toronto water supply, the results are fairly reassuring, in spite of the sensational reports which have been circulated about that beverage, we do not understand, why the water of Lake Ontario, which has been known, as a rule, to be free from bacteria or at most to contain less than 100 per c.c., managed between the intake and the tap to have this number increased to 970, if no contamination occurred. The fact that a larger number of bacteria are present in smaller bodies of surface water elsewhere throws no light upon this point.

What is most defective about the report, however, is the fact that the results are based upon the analysis of a single sample only, and this to our mind makes the report of very little value. The number of bacteria in the same water supply will vary greatly at different seasons of the year, and, therefore the true character of the water can only be judged by the analysis of a number of samples taken at stated intervals.

In the case of Montreal, for example, the bacteriological analysis made a few years ago, covered a period of eighteen months, and the number of bacteria per cubic centimetre varied at different seasons between 9 and 2400. The number given as typical of the Montreal supply occurs only at two seasons of the year, viz., after the melting of the snow in spring and after the rainfall at the onset of winter. As this is probably the case with all the supplies examined, it would be impossible to judge of the significance of the number of bacteria in the water, apart from the local meteorological conditions. Instead of this the dates when the samples were collected are not even mentioned.

No chemical examination appears to have been made.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, April 20th, 1894.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Dr. Edward J. Kennedy was elected an ordinary member.

Angiosarcoma of the Lung.—Dr. JAMES STEWART brought before the Society a young man suffering from a morbid growth of the lung. (See page 909.)

Melanotic Sarcoma of the Foot.—Dr. ARMSTRONG exhibited the specimen which had been removed from the sole of the foot of a woman aged 67. Five years ago she had stepped upon a nail which had pierced the sole. After it was removed the wound healed ; one year later it re-opened and discharged pus for some time and again healed. For the past four years it has periodically opened, discharged and again healed up, sometimes remaining closed for a month or two. During this time she had been doing the work of a servant and never had any medical attendance until a month ago, when she called upon him. Behind the middle and fourth toe there was a mass about one inch square which resembled an exuberant granulation. Under ether this mass was shelled out with a blunt spoon, it being connected with neither tendon nor periosteum. On examination a lymphatic gland, about the size of an egg was found below Poupart's ligament, the patient not being aware of its presence. The hæmorrhage after removal was considerable, one or two little vessels spouting.

Dr. Armstrong thought at the time that the condition was malignant, which suspicion was confirmed by Dr. Adami's report. Such cases are instructive, inasmuch as they show that irritation may sometimes set up a growth in situations where otherwise it would not be at all likely to occur or may change the character of a growth from a benign to a malignant type. This principle applies to the breast also, and should impress us with the importance of paying early attention to any leison which, by continued irritation, may develop into a malignant character in the later years of life.

Dr. ADAMI stated that the somewhat alveolar arrangement of the cells in portions of this tumour brings up a much debated

question as to the nature of these melanotic sarcomas. Are they ordinary sarcomas, or a mixture of sarcoma and carcinoma or a very malignant form of pure sarcoma? Here, however, the evidence is certainly in favour of a pure sarcomatous nature, the growth originating immediately beneath the malpighian layer of the epidermis. This tumour differs from many other melanotic tumours by being very well defined, and there being not much evidence of cell growth at its borders, a condition uncommon in primary melanotic growths. It being very superficial may account for it not being attached to the deeper structures. It will be interesting to note if any secondary growth appears in the gland in the groin for often when the primary growth is of small size there is rapid increase in the secondary form.

A Case of Appendicitis.—Dr. ARMSTRONG in exhibiting this specimen, stated that the clinical history was of more than usual interest. The patient, a lady, 46 years of age, a morphinomaniac, gave a history of eight attacks of pain in the lower part of the abdomen. In one of her attacks in November, 1893, she was five or six weeks in bed. Dr. Armstrong saw her for the first time two months ago, when on examination he found in the right side of the pelvis a fairly large mass, hard, painful and tender on pressure. On considering the history of repeated attacks, he advised early removal of the mass. While the patient had this still under consideration, she came and said that she had discharged about a pint of creamy yellow matter from the vagina, then on examination he found that the mass was almost all gone, and therefor came to the conclusion that it had emptied itself in that way. Two weeks ago she complained of abdominal tenderness, and he thinking that she had been taking morphine by mouth was inclined to account for it by the use of that drug. Her temperature, however, rose to 100°, and next day she began to go into a state of collapse. Subsequently the temperature dropped to 95½°, and then quite suddenly returned to normal with an accompanying improvement in the pulse. This latter favourable condition continued for some days, until one morning, when on going to the hospital he found her with a low temperature, small weak pulse, pain and extreme tenderness on pressure. Operation was at once

performed. Thinking he had to deal with a tubo-ovarian abscess, he made a median incision, but on going down into the pelvis on the right side he soon reached pus. After working at what he thought was a tube he released it only to find that it was the plexure of the colon which lay to the right of the uterus, just above the Fallopian tube which, together with its ovary, was perfectly normal. The colon was filled with water, and found not to be perforated. Then examining the region of the caecum, the blunt and diseased appendix was found. Such a condition in a woman is very misleading, pointing as it did more to a pus tube than to a purulent appendix, especially as her husband was not above suspicion.

Acute Leukæmia.—Dr. STEWART gave the clinical history. The patient, a man, 60 years of age, was admitted into the Royal Victoria Hospital in a condition of high fever and swelling of all the lymphatic glands. These were his chief symptoms during the three weeks prior to his death. There was enlargement of liver and spleen, marked leucocytosis, white to red, varying 1-30 to 1-50. Diagnosis was acute leukæmia, but in this connection it was difficult to explain the high pyrexia, that of leukæmia being very moderate. The patient died from exhaustion, his condition being quite uninfluenced by treatment.

Dr. ADAMI gave the pathological report. The microscopical examination of the liver showed increased amount of fibrous tissue between individual cells pointing to some chronic disturbance. Sections of the pancreas also showed more fibroid tissue than normal. Cultures from the spleen upon agar-agar and beef broth showed the characteristic development of the streptococcus of suppuration. Dr. Adami stated that at the time of the autopsy he had a slight scratch upon his finger, at the site of which small pustules subsequently developed, from these he had made cultures and found very characteristic streptococcus growth. This led to a more thorough examination of all the organs and enormous numbers of streptococci were found throughout. Emboli formed of the streptococci were found in the marrow of the sternum, in the spleen pulp, filling up the capillaries between the liver cells, in many places in the kidney, in the lymphatic gland, especially those softened glands of the mesentary about the pancreas. They

all stained by gramms method like the ordinary streptococci and the cultural peculiarities resembled them also. They, however, differed slightly from the ordinary streptococcus of erysipelas and suppuration by growing more freely, the broth in which they grew not being quite so clear as usual, and the size of the chain was rather longer. The inoculation experiments are as yet incomplete. (A full report of this case will appear in a later number.)

Dr. Bell asked for some information as to the man's occupation prior to his illness, for it seemed to him from the clinical and pathological report that the case was one of septic infection.

Dr. Geo. Brown wished to know whether any ear symptoms were present. The case recalled to his mind one reported in the General Hospital several years ago, in which the only symptom was a septic temperature, and in which a diagnosis of suppurative endocarditis was made. The autopsy, however, revealed suppuration in the lateral sinus.

Dr. Gunn saw the patient when he first came to the hospital and learned from him that he had been working recently cleaning out the sewers. Another important feature in the case was the nature of the leucocytosis. The increase of the white corpuscles finally reached the proportion of 1 in 37, and consisted solely of an increase of the polynuclear leucocytes, the mononuclear variety not being at all increased. This condition of the blood corresponds with septicæmia. Another very interesting point in the case was the peculiarity of the splenic enlargement, which instead of enlarging downwards extended upwards, its area of dulness reaching behind to the middle of the scapula, and being continuous in front with the heart dulness. At the autopsy this condition was explained by the contraction of the left lung, which accordingly permitted the upward extension of the spleen, as being the direction of least resistance.

Typhoid Fever with Double Pneumonia.—Dr. Geo. A. Brown reported the case. D. O., age 30, complained of headaches, pain in the back and bones, dyspnœa and cough with expectoration of a rusty character. Family history negative. Patient had scarlet fever and measles in childhood and la grippe four years ago and since that time has enjoyed good health.

Present illness began about ten days ago (Sept. 25), with chilliness, headache, pain in the back and bones, and slight pain in the abdomen, followed by diarrhœa. About Oct. 1st, he had a slight hacking cough, with expectoration of a frothy character. Thinking that it was only a cold, he tried to battle it off and remained at work until he was compelled to give it up. On Oct. 4th, I saw patient for the first time. He was in a semi-comatose condition and there was marked signs of prostration. Temp., was 105° ; Pulse 120 ; Resp., 40 ; pupils were contracted and responded to light. I found it very difficult to wake him and when awake he had difficulty in hearing, and did not understand questions very well.

On examination of the lungs I found sibilant râles all over with rapid and prolonged respiration. At the back in the right inferior scapular region there was dulness, blowing breathing and bronchophony, also some physical signs in inferior auxillary region, showing extensive consolidation of the right lower lobe. On left side in left inferior scapular region there was another patch of pneumonia about two inches square.

The abdomen was covered with rose spots. On palpation it was tense, there was tenderness and gurgling in right iliac fossa, spleen was enlarged ; dulness extended from eighth rib almost to the crest of the ilium. Urine normal.

For first seven days (Oct. 5th to 12th) of his illness, patient remained in a prostrated condition. There was present a low muttering delirium, picking of the bed clothes and subsultus tendinum. On eleventh and twelvth of October patient was in a semi-comatose condition all the time and could not be aroused when nourishment was given him. There was a cyanotic condition of the lips and finger tips. Urine was examined and no albumen found. Oct. 13th, the delirium ceased, the temperature and pulse dropped and there was profuse sweating. In the pneumonic areas there was a few redux râles.

From Oct. 14th to 21st the physical signs resembled acute miliary tuberculosis, as there were numerous moist râles all over the lungs, more especially in pneumonic portions. There was a hectic flush and profuse sweating towards evening, usually lasting about two hours. There was also frequent coughing, at times followed by muco-purulent expectoration.

About Oct. 22nd, physical signs in lungs cleared up; cough ceased and there was also a few mucous râles in the bases.

The abdominal symptoms at the time were more marked, there was distention and the stools were very fœtid.

On Oct. 28th, temp., dropped to normal and patient made a good convalesence. Treatment was milk diet, brandy ℥ vi, and Trit. Strychininæ Sulp. gr. $\frac{1}{30}$, 4 g.h, and Trit. Hydrarg Subchlor gr. $\frac{1}{10}$ 2 g.h., while the stools were fœtid.

The causation of Inflammation of the Brain—A comparison of authorities on the subject.—Dr. Wesley Mills read the following communication:

Owing to some remarks made at a recent meeting of the Society in regard to the relations between the blood vessels and inflammation of the brain I have been led to look into the literature of the subject and now submit the following brief references from writers in English.

Fagge in his Principles and Practice of Medicine says: "Now it is well known that an embolism often sets up inflammatory processes in the parts around the vessel in which it becomes lodged."

Bristowe observes in his Theory and Practice of Medicine: "In a large number of cases encephalitis arises from the influence of some irritating mass as a patch of softening."

"Inflammatory changes occur about the softened areas and when the embolus is derived from an infected focus as in ulcerative endocarditis, there may be suppuration. According to Flint: "If the embolus is infectious it leads to the formation of an abscess."

Ross (Handbook of Diseases of the Nervous System), believes that, "local disease of the brain like thrombosis, embolism, etc., often sets up surrounding inflammation of the brain."

Bartholow (Practice of Medicine), remarks that, "more frequently encephalitis has occurred from infective thrombi."

Osler (Practice of Medicine) writing of thrombosis and embolism holds that "inflammatory changes are common in and about the softened [brain] areas. When the embolus is derived from an infected focus, as in ulcerative endocarditis suppuration may follow."

One of the principles I learned as a student from that great

teacher of Medicine the late Dr. R. P. Howard, was, that in any case of fatal brain disease it was a wise precaution to examine the blood vessels of the brain, and, in fact, to look into the circulatory system generally, especially so in cases of softening, inflammation, etc.

From such an examination of the writings of the leading teachers of Medicine of the present and the immediate past as I have been able to make, it appears that such an advice is still sound. While we should welcome any new light that microbic or other processes may throw on disease, I cannot but believe that the old landmarks have not yet all been swept away.

In a few words the truth in regard to inflammation and suppuration of the brain, seems to be thus: While an inflammation of the brain may arise and go on to suppuration without the blood vessels being especially concerned in a causative way, and while a thrombus or an embolus may not give rise to inflammation, yet on the other hand inflammation and suppuration may follow sooner or later and is almost sure to do so if the thrombus or embolus be due to some infective process near or remote. It follows therefore that the examination of the blood vessels of the brain, both venous and arterial, is a sound procedure in all cases of gross brain lesion.

Dr. Adami remarked that he presumed the paper was intended, by Dr. Mills, as an answer to his (Dr. Adami's) statement at the last meeting, that emboli never caused suppuration. He, at the time, understood Dr. Mills to mean that suppurative inflammation of the brain, might be due to an infarct in that organ, that is to say, to the simple blocking of a vessel by some non-infective material. This he regarded, and still regards as impossible. To have suppuration and the formation of an abscess (as there was in the case then being discussed), one must have the presence of a micro-organism. Every metastatic abscess is the result of the carrying to and the blocking of some vessel by micro-organisms, which cause a destruction of tissue, etc., at that point. A simple infarct on the other hand, causes necrosis, and round about the necrosed area, one may get a zone of simple inflammation, but never the formation of pus. The authorities quoted by Dr. Mills, in

his paper, may be divided into two classes. (I). Those who are referring to simple inflammation (II). Those who are referring to supperative inflammation, and it will be found that they both agree pretty closely with the foregoing views. He pointed out that in giving his description of the brain, he had referred to the atheromatous condition of the vessels.

Dr. Mills admitted that his paper was intended as an answer to Dr. Adami's treatment of his comments on a case discussed at the last meeting. In asking the question that night, he simply wished to know whether the blood vessels of the brain had been examined, as while he did not wish to belittle the importance of the more recent methods of bacteriological research, yet he thought it inadvisable to desert entirely the good old landmarks of pathological investigation, and as such he regarded the condition of the vessels as something never to be overlooked.

The late Dr. Joseph Workman.—Dr. Girdwood called the attention of the members to the death of Dr. Joseph Workman, of Toronto, who was an Honorary Member of the Society, the oldest living graduate of McGill University, and was connected by marriage with one of our present most prominent members. He moved—"Resolved, that the members of this Society have heard with deep regret of the death of Dr. Joseph Workman, of Toronto, who was an Honorary Member of the Society, and that they desire to express their high esteem for the late Dr. Workman and their sympathy with the family of their deceased friend and fellow worker; and that a copy of this resolution be forwarded to the representatives of the family."

Dr. Wesley Mills, although regretting the occasion, had great pleasure in seconding the resolution. He knew Dr. Workman, he had felt the influence of his presence, for good and knew a number of men who had experienced the same. Dr. Workman, in fact, was one of those men who influenced profoundly almost every person with whom they come in contact. He had made some important contributions to our Society, and was for many years a translator of scientific Italian medical work which if he had not translated, would most likely have remained entirely unknown to the majority of the profession in Canada. In this respect he even went to the trouble

of translating an important Italian work on the brain for which he never got a publisher. He was in many ways an extraordinary man, a man with the courage of his convictions. For many years in Ontario he fought the battles of the profession through the press, and we to-day are reaping the fruit of the victories won by this great Nestor over the iniquities of his time. Dr. Mills expressed it as his conviction that, with the exception of the late Dr. Howard, perhaps there was no man in Canada who was so generally respected and admired by his professional brethren, and, indeed, by all who knew him intimately enough to appreciate the nobility of his nature, as was Dr. Workman.

Stated Meeting, May 4th, 1894.

James Bell, M.D., President, in the Chair.

Foreign Body in the Bronchus.—Dr. Bell exhibited a short piece of lead-pencil, with a brass top, out of which the rubber had fallen, that he had recently removed from the lower division of the left bronchus of a child. A week ago last Thursday a little girl eight years of age, while nibbling the end of her lead pencil, was struck on the back of the head by a schoolmate; the pencil slipped from her fingers into her mouth, and being a nervous child, she jumped up, inspired, and drew it into her larnyx. A fit of strangulation followed, lasting about fifteen minutes, and nearly proved fatal. A doctor was immediately called in; she recovered sufficiently to walk home, but coughed violently throughout the night. Her family doctor saw her at ten o'clock that night, but as she was then sleeping, he made no examination. The next morning, on calling, he found the left side of her chest collapsed and dull, with no evidence of air entering the lower lobe, and very little the upper lobe of that lung. The cough then had almost ceased, but she complained of great pain, which she vaguely referred to the region of the nipple. Her temperature rose during the day, and in the afternoon had reached as high as 103.5°. She was brought to Montreal that day and when Dr. Bell saw her in the evening, at the Royal Victoria Hospital, her temperature was 104°, respiration 50 to 60 per minute, pulse 140; she was very restless and complained of great pain

in the situation already mentioned. The collapse of the left side was so marked, as to be visible to the naked eye, and auscultation revealed, that absolutely no air was entering the lower lobe, while in the upper, only a very feeble sound without any vesicular murmur, could be heard. His conclusions were, that the piece of pencil had entered the left bronchus, into the lower division of which, it had become impacted so as to completely occlude it, while its end, lying across the orifice of the upper division, partially blocked its lumen as well; that in this position it acted as a bullet valve, which when she coughed permitted the residual air to be expelled, but which upon inspiration, became firmly impacted and prevented the entrance of air to the lower lobe, and allowed very little to the upper. Recognizing the condition as a serious one, Dr. Bell thought it better to postpone the operation until the morning, by which time he could have the assistance of Drs. Stewart and Roddick in consultation. With their concurrence, the next day (Saturday), a low tracheotomy was performed, and the trachea opened below the isthmus of the thyroid. Before attempting the extraction of the foreign body the child was placed in what might be described as an exaggerated Trendelenberg's position, with a pillow beneath the back of the neck, to throw the head back; so that if he succeeded in dislodging the foreign body gravitation would cause it to fall downward towards the wound in the trachea, and thus prevent it from being drawn into the other bronchus. To reach it, an angular forceps, with blades 3½ inches long, and the angle nearly ninety degrees, were used, the angle of which went completely into the wound, and thus permitted the blades to be manipulated with great ease. Having succeeded in grasping it with the forceps, he he disloged it from its impacted position with a little jerk, but then fearing he might have been mistaken, and have caught hold of a ring of the bronchus instead, he let go the object, for the purpose of satisfying himself further. Immediately, however, there was a gush of pus up through the tracheal wound, which threatened the patient with instant asphixiation, but, fortunately not having withdrawn the forceps, he passed them down again, and striking the brass end of the pencil, which happened to be uppermost, he immediately withdrew it. All

symptoms of urgency disappeared at once. The next morning on examining the chest air was found entering both lungs freely, a few râles were found in the lower lobe of the left lung anteriorly; but since then these have disappeared, the child appears quite normal, and is only waiting for the closing of the tracheal wound to return to her home.

Dr. James Stewart, had the privilege of seeing the child before, during and after the operation, and felt honoured that he belonged to a profession capable of accomplishing such beneficent results. It was quite clear to any person who witnessed the great distress under which the little patient laboured, that she could have lived but a very few hours. An interesting feature was the change in the physical signs which the plugging gave rise to; percussion over the lower half of the left lung gave a note quite as flat as that met with in pleural effusion, while over the upper half though not so marked, it was still less resonant than normal: On listening over the lower half, nothing at all was heard, while in the upper portion one had tubular breathing. These phenomena are worthy of consideration as illustrating how respiratory sounds in health and disease are produced.

Six Cases of Pyosalpynx.—Dr. A. Lapthorn Smith, read the reports of the cases. (To appear in a later issue.)

Urinalysis in One Hundred Cases of Ether Anæsthesia.—Dr. Gordon Campbell read a paper on this subject, of which the following is a synopsis:—Specimens were examined of the urine before, during the actual time of, and after the anæsthesia and the occurrence of albumin, sugar and acetone noted and the amount of urea estimated during the actual anæsthesia as compared to the normal. The amount of urine secreted while under ether anæsthesia was found to be within the normal limits, but the amount of urea excreted was largely diminished, averaging only ($\frac{3}{8}$) three eighths of the normal; *i. e.*, at the rate of 177 grains per diem. Both the amounts of urine and of urea varied inversely with the length of anæsthesia. Albumin was found in the urine secreted during anæsthesia in 6 per cent of the cases and in three of these the presence of a sound in the bladder during part of the time was looked on as a possible cause. In no case did the amount of albumin exceed 2 grammes per litre and in every case it disappeared the

following day and was considered to be of vaso-motor origin. Sugar was not found as a product in any of the cases. Acetone was invariably present for two days following anæsthesia and in 64 per cent appeared during the administration. It lasted from 3 to 7 days after.

Dr. BULLER, reminded Dr. Campbell of a case in which he had administered ether to a patient who was in a very advanced condition of saccharine diabetes, and who became dangerously cyanosed during the administration. Noticing that no allusion has been made to any such case in the paper, the speaker wished to know if Dr. Campbell had ever since met with any similar case.

Dr. REED wished to know what test had been used for acetone, also whether the latter was present in sufficient quantity to be recognisable without distillation.

Dr. LAPTHORN SMITH declared himself as no friend of ether, but would like to give it its due. He did not think the ether was responsible for the diminished quantity of urine secreted after anæsthetisation. The preparatory treatment which is employed in cases of laparatomy would alone have this effect. For some days before the operation a patient is kept on dry food, and purged freely by means of cathartics, thus getting rid of a large quantity of water from the system; the day previous to the operation the patient is not allowed any water to drink; and again some operators prohibited food for 24 hours after the operation. All this must have a very considerable effect in lessening the quantity of urine. Now as to the diminution in the quantity of urea, he ventured to say that this diminution was not confined to the patient, but that both the operator and the anæsthetist would find themselves similiarly affected. It must be remembered that urea is oxidized nitrogen, and that during every hour that a person is in a room without much air, or with air deficient in oxygen, the oxidisation of the nitrogen into urea becomes more difficult, and it is often compelled to stop at the uric acid stage. For his own part he has frequently found himself, after a prolonged operation, in a crowded room, to be suffering from soreness or aching in the joints, which he attributed to an excess of uric acid in his blood. Again as to the safety which Dr. Campbell

has administered ether, he thought more credit was due to the anæsthetist than the anæsthetic. A great deal was the result of the use of Clover's Inhaler, but this was an apparatus which every one could not manipulate with success, very few have been as successful with it as Dr. Campbell. By means of it, the quantity of ether administered during a given time is much less than would be required to keep up the same degree of insensibility, were the ether administered by any other means; as a result, therefore, the patient consumes less of the drug per minute or per hour, and consequently runs less risk.

Dr. Hingston complimented Dr. Campbell on the spirit of thoroughness with which he had conducted these investigations; and expressed a wish that Dr. C., might undertake a similar series of experiments, with chloroform. To have the same observer study the properties of the two drugs would be much more satisfactory, than two investigators each confining himself to one.

Commenting on the details of the paper, Dr. Hingston took exception to the term "post" being used to designate the period during which the patient was really under the influence of the anæsthetic, and suggested that a better division would be into "ante" "per" and "post," or before, during and after the administration.

Dr. Wesley Mills praised very highly Dr. Campbell's paper. He concurred in Dr. Smith's criticism relative to the changes brought about in the urine from excitement etc., as factors which should be taken into consideration when estimating the effects of the anæsthetic on that secretion. In this respect he alluded to the differences which he had frequently noticed in his own urine after lecturing, or when labouring under the strains of examination time, differences which a colleague of his had also observed.

Dr. James Bell, expressed himself as greatly interested in Dr. Campbell's observations. As a routine practice he was accustomed to use ether as an anæsthetic, reserving chloroform for certain conditions where the former was said to be contra-indicated. One of these was in affections of the kidney. He had never been able to see any good reason for this restriction, and a study of Dr. Campbell's cases was not calculated to

remove the doubt. Only six cases of albuminuria appear in this list; in three of which a sound having been passed into the bladder is sufficient in itself to account for albumen in the urine. Relative to the undoubted diminution of urine, and urea following ether anæsthesia, it must be remembered that such phenomena are susceptible of more than one explanation. The length of time during which the anæsthetic had been administered, and the effects of the shock proper to the operation itself have to be taken into account in this respect. At the same time, Dr. Bell, thought it well to remember that one hundred cases were after all a very small number for us to draw any positive conclusions from; to do this, the investigation should be continued, and extended over a great many hundred cases if possible.

Dr. Gordon Campbell, in reply to Dr. Buller, said he remembered well the case referred to and thought that the cyanosis in that case was not due to the ether, but to a spasm of the glottis, because upon introducing a finger into the patient's mouth, and raising the epiglottis, the spasm was relieved. The only other case he had seen with sugar in the urine took the ether normally, although it must be said that here the amount of sugar was very small—a mere trace only.

In answer to Dr. Reed, he said it was his practice always to distil the urine before testing, he tried once or twice testing the specimen direct, but did not meet with much success, and thought it would not be easy to detect in that way.

With regard to Dr. Bell's remarks, two cases showed pus in the urine before the operation, and as far as they could judge by the eye, and by microscope, the condition afterwards remained the same. He did not mention these, as two cases he considered proved nothing.

As to the time occupied in the operations, Dr. Campbell explained that most of these cases had been drawn from his experience in Dr. Gardner's Private Hospital, where, having no fear of the anæsthetic, they were accustomed to give the ether in the patient's room, and keep her under the influence of it until she returned there; in this way the length of time occupied by anæsthesia might sometimes exceed by an hour the time of the operation.

Dr. Wm. Gardner in reply to Dr. Smith who had called attention to the importance of the preparatory treatment in laparatomy in influencing the diminution in the quantity of the urine, said that his patients had very little preliminary treatment. His operations are performed at 9 a.m.; a dose of castor oil the night before and at 7 a.m., they have a cup of beef tea. This constitutes all their preparatory treatment.

Exophthalmic Goitre.—Dr. A. W. Haldimand, gave the clinical history of a case which came under his observation in the Metropolitan Dispensary. The symptoms were exophthalmos and gôitre which first appeared six weeks ago. There was no tachycardia, which is peculiar since authorities seem agreed in considering this an ever present symptom. Neither were there other circulatory symptoms, such as throbbing of the carotids, or flushing of the face. There was nothing in the family, or personal history of the patient to account for the disease. The patient was a barber by trade 27 years of age, and with the exception of a few attacks of gonorrhœa, never a day sick in his life. Auscultation revealed a slight systolic murmur, and his pulse was found to be somewhat irritable. The treatment employed was eight minims of the Tinct. Bella donnæ three times daily, under which the gôitre rapidly diminished. The interesting features in the case, and those which he thought warranted his bringing it before the society, were the acuteness of the onset, and the absence of tachycardia.

Selections.

Tubercular Meningitis from Milk.—An apparently well authenticated case of tubercular meningitis, the direct result of drinking milk from a tuberculous cow, is reported from Yonkers. The patient, the four-year-old son of Mr. Wm. A. Harper, of the publishing house of Harper & Brothers, who married a grand-daughter of the late Rev. Henry Ward Beecher, gave no sign of ill-health until the 1st of March, when the family physician was called in. The symptoms presented were those of tubercular meningitis, and later the diagnosis of this disease was confirmed by Dr. M. A. Starr, Professor of Diseases of the Nervous System in the College of Physicians and Surgeons of New York, who was called in consultation. The child died March 27th. The milk used by the family was supplied by two fine Alderney cows which were purchased about a year ago, and which had always seemed to be perfectly healthy. After the child's death, however, the Koch lymph test was applied by Veterinary Surgeon J. B. Lamkin, and the presence of tuberculosis was indicated in both animals by the rise of temperature following the injection. A careful examination also revealed evidences of tuberculosis in the udder of one of them; and it is claimed by Dr. Brush and other authorities that the milk of a tuberculous animal cannot convey the disease unless the mammary gland is affected. It is stated that several weeks ago Dr. Lamkin reported to the Board of Health that he had found tuberculosis among the cattle of Yonkers.—*Boston Medical and Surgical Journal.*

Legal Requirements for the Practice of Medicine in the United States.—So many changes have been made in the legislation regulating the practice of medicine in this country during the past three years, that the Illinois State Board of Health will include, in its forthcoming Report on Medical Education, the text of all laws on this subject in force at the beginning of the present year in the several States and Territories of the United States, and in the provinces of the Dominion of Canada. From this forthcoming Report, through the courtesy of the Secretary of the Board, Dr. J. W. Scott, some data have been gathered

which will be of interest to the spring crop of new graduates, and to medical men generally.

Of the six New England States, Maine, Massachusetts, New Hampshire and Rhode Island have no legal requirements for the practice of medicine. Connecticut has adopted a medical practice act which went into effect Oct. 1, 1863, and in Vermont the law requires the registry of a diploma indorsed by a Board of Medical Censors or of a certificate of satisfactory examination by one of these Boards.

Exclusive of the four States first named, the other States and Territories may be roughly grouped into the following three classes:

In Alabama, Arkansas, Florida, Maryland, Minnesota, Mississippi, New Jersey, New York (act of May 9, 1893), North Carolina, North Dakota, Pennsylvania (after March 1, 1894), South Dakota, Texas, Utah, Virginia and Washington, the diploma confers no right to practice and has no legal value, except, in some cases, to give its possessor standing before an examining board. The right to practice in each of these sixteen States is determined by individual examination before boards of examiners created by law.

In California, Colorado, Connecticut (since October, 1893), Delaware, Illinois, Iowa, Kentucky, Louisiana, Missiouri, Montana, Nebraska, New Mexico, Oklahoma, Oregon, Tennessee, Vermont and West Virginia, the diploma is subject to supervision of some designated body vested by law with authority to determine its validity as evidence of its possessor's qualifications for the practice of medicine. Failing the possession of such a recognized diploma, the right to practice may be acquired by passing a satisfactory examination.

In Arizona, Georgia, Idaho, Indiana, Kansas, Michigan, Nevada, Ohio, South Carolina (since the repeal of the Act of 1888), Wisconsin and Wyoming, the presentation of any kind of a diploma—provided only that it be from a "chartered" medical institution—is the sufficient warrant in law for country clerks, clerks of courts, registrars of deeds and similarly qualified judges of medical fitness to admit to practice.

Following is a résumé of the legal requirements for practice

in each State and Territory of the United States, in force Jan. 1, 1894:

Alabama.—A certificate of successful examination by the State (or a county) Board of Medical Examiners. Diplomas confer no right to practice.

Arizona.—Registry, with a county recorder, of an unrevoked uncancelled "diploma regularly issued by a medical college properly and lawfully organized under the laws of the State wherein said college shall be located."

Arkansas.—A certificate of successful examination by the State (or a county) Board of Medical Examiners. Diplomas confer no right to practice.

California.—A certificate issued on the diploma of a college in good standing or upon a successful examination by one of the State Boards of Medical Examiners—regular, homeopathic or eclectic.

Colorado.—Similar to California, except that there is but one State Board of Medical Examiners.

Connecticut.—A certificate of registration of the diploma of a college "recognized as reputable by one of the chartered medical societies of the State," regular, homeopathic, eclectic; or a certificate of satisfactory examination by a committee appointed for the purpose by the State Board of Health.

Delaware.—A certificate based upon the registration of a diploma from "a respectable medical college," or upon "a full and impartial examination by the State Board of Medical Examiners."

District of Columbia.—Nominally the indorsement of a diploma, or an examination, by a committee of the District Medical Society; practically no requirement.

Florida.—A certificate of satisfactory examination by the State (or a district) Board of Medical Examiners. Diplomas confer no right to practice.

Georgia.—The registration of a diploma from any "incorporated medical college, medical school or university." The clerks of the Superior Courts are the sole judges of the diploma as evidence of fitness for medical practice.

Idaho.—The record of a diploma at a county seat.

Illinois.—A certificate issued by the State Board of Health

upon the diploma of a legally chartered medical institution in good standing as determined by the Board, or upon a satisfactory examination by the Board.

Indiana.—The registration, in a county clerk's office, of a diploma "from some reputable medical college."

Indian Territory.—*a* Cherokee Nation: An examination by the Board of Medical Examiners; *d.* Choctaw Nation: A certificate by the Board of Medical Examiners; *c.* Creek Nation: Payment of $25 annually as a license fee.

Iowa.—Similar to Illinois.

Kansas.—The registry of a diploma from "some respectable school of medicine," or of a certificate of qualification from some State or county medical society.

Kentucky.—A certificate from the State Board of Health issued upon the "diploma of a reputable and legally chartered medical college.

Louisiana.—The record of a diploma from "any medical institution of credit and respectability" after indorsement by the State Board of Health.

Maine.—No legal requirement. In 1887 an act to regulate the practice of medicine was passed by the Legislature but was vetoed by the Governor.

Maryland.—A certificate issued upon a satisfactory examination by the State Board of Medical Examiners. Diplomas confer no right to practice.

Massachusetts.—No legal requirement.

Minnesota.—Similar to Maryland.

Mississippi.—Similar to Maryland—except that the examination is made and the certificate issued by the State Board of Health.

Missouri.—Similar to Illinois.

Montana.—Ten years of practice; a certificate upon the diploma of a college "in good standing," or upon an examination by the State Board of Medical Examiners.

Nebraska.—A certificate issued by the State Board of Health upon the diploma of "a legally chartered medical school or college in good standing," as defined in Section 8 of the Act of July, 1891.

Nevada.—The record of a diploma from "some regularly chartered medical school."

New Hampshire.—No legal requirement.

New Jersey.—A license issued upon a successful examination by the State Board of Medical Examiners. Diplomas confer no right to practice.

New Mexico.—A certificate upon the diploma of a legally chartered medical institution in good standing, or an examination by the Territorial Board of Medical Examiners.

New York.—A license issued upon a successful examination by one of the State Boards of medical Examiners—regular, homeopathic, eclectic. Diplomas confer no right to practice.

North Carolina.—A license issued upon a successful examination by the State Board of Medical Examiners. Diplomas confer no right to practice.

North Dakota.—Similar to North Carolina.

Ohio.—The diploma of a respectable school of medicine, or a certificate of qualification from a State or county medical society.

Oklahoma.—A license issued by the Superintendent of Public Health upon a medical diploma or after examination.

Oregon.—A certificate on the diploma of a college "in good standing," or after examination by the State Board of Medical Examiners.

Pennsylvania.—A license issued after examination before one of the State Boards of Medical Examiners: Act of May 18, 1893; takes effect March 1, 1894. Diplomas will thereafter confer no right to practice.

Rhode Island.—No legal requirement.

South Carolina.—A certificate of verification of the diploma of a reputable medical college. An Act of December 24, 1890, abolished the State Board of Medical Examiners created by the Act of 1888 and under which the diploma conferred no right to practice.

South Dakota.—A license issued by the State Board of Health after examination. Diplomas confer no right to practice.

Tennessee.—A license on the diploma of a college "in good standing," or after examination by the State Board of Medical Examiners.

Texas.—A license issued after examination by a District

Board of Medical Examiners. Diplomas confer no right to practice.

Utah.—A license issued by the Territorial Board of Medical Examiners after examination. Diplomas confer no right to practice.

Vermont.—The registry of a diploma indorsed by one of the Boards of Medical Censors, or a certificate of examination by one of the Boards.

Virginia.—A license issued after examination by the State Board of Medical Examiners. Diplomas confer no right to practice.

Washington.—Similar to Virginia.

West Virginia.—A license on the diploma of a reputable college, or after examination by the State Board of Health.

Wisconsin.—The indorsement of a medical diploma by the censors of either of the State or County medical societies.

Wyoming.—The record of a diploma with a registrar of deeds.—*J. A. M. A.*

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PROFESSIONAL SECRECY AMONG MEDICAL MEN.

Professor Brouardel of Paris, who was already the author of a work on this subject, has recently published, under the title of *Le Secret Médical*, some lectures in which his views are further explained and illustrated.*

The fact that we have no English equivalent for the expression *Secret Médical*, indicates that what Prof. Brouardel refers to as "one of the most beautiful and sacred of the prerogatives of our profession," has never received general recognition among the English. We do not, in fact, distinguish any form or degree of secrecy peculiarly medical in nature. The oath of secrecy formerly exacted by the Faculty of Medicine of Paris "*Ægrorum arcana visa, audita, intellecta eliminet nemo*," is far more stringent than the "*non sine gravi causa vulgaturum*" which is the expression adopted by most of our own medical colleges. The French criminal law (article 378) provides a penalty of 100 to 500 francs for medical men, apothecaries, or midwives who reveal secrets confided to them in the course of their professional duties, unless obliged by the law to do so.

The interpretation of this statute by physicians has been different from that by the legal authorities, the latter maintaining that medical men are not bound to secrecy if, for instance, when attending a woman for a threatened miscarriage, proof of an attempted abortion are incidentally discovered without the patient having confidentially informed them of the fact. To

* Annales d'Hygiène Publique, Avril, 1893, p. 289.

this view, however, the members of the medical profession in France are strongly opposed. In 1853, under circumstances of this nature, the physician refused to reply in court, and was sustained in so doing by the judge. In 1885, when Dr. Watelet, who was unjustly prosecuted in a matter which involved his professional reputation, felt himself at liberty to publish a letter giving the details of a consultation with Prof. Fournier and narrating facts of a private nature in regard to the patient, he was fined 100 francs for violation of professional secrecy, and this judgment was confirmed by the Court of Appeal.

Prof. Brouardel, in bringing examples to support this obligation of secrecy, mentions these cases (1) where the malady or the circumstances of the death are of such a private or degrading nature that the interests of the patient would suffer if it were revealed ; (2) in regard to diseases regarded as hereditary such as tuberculosis, epilepsy, or insanity where the knowledge of their existence might form a bar to marriage ; and (3) in diseases popularly supposed to cause death more or less rapidly, and where an unfavourable prognosis might cause alarm.

The duty of preserving secrecy when the death of well-known and respected citizens occur unexpected in houses of ill-fame, would seem to us a personal rather than a professional question.

Whether the greatest good to the greatest number is attainable by the unrestricted entrance of epileptics, etc., into the bonds of matrimony, under a false pretence of being in perfect health, is not a question which is allowed to be taken into account by the upholders of medical secrecy, and no doubt it is very convenient for physicians to be able to follow some hard and fast rule. With regard to the third class of cases regarded as enjoining secrecy, M. Brouardel's arguments do not appear to be very strong. He instances a case where a person suffering from aortic incompetency, was not warned of his serious condition, but allowed to pursue his ordinary mode of life and assured that his health was excellent. The man lived for 16 years, and died of acute pneumonia. On the other hand, it is quite likely that if he had been informed of his condition

and told at the same time that his life would not probably be endangered by it, the results might have been equally good. The fact that it is possible to frighten a patient of this sort into a hypochondrical condition hardly appears to form grounds for a universal medical secrecy.

Two other examples which are given in support of *Le Secret Médical* strike us as being particularly weak. One is the danger of informing a phthisical patient of his condition, because the public will then consider him doomed to certain death within a short time. On this head it is, we think, the general experience that it is all but impossible to convince a consumptive that he is ill really, and for each death hastened by fear in this disease, we find a dozen brought on because, after marked improvement, the patient insisted upon returning to work before the cure had had time to become complete.

The other was illustrated by a case where an individual, upon being informed that his brother was affected with general paresis and would probably die within three years, insured that brother's life for $20,000 and obtained the amount of the policy. Here the error was not violation of medical secrecy, but deliberate fraud on the part of the beneficiary, and want of care or skill on the part of the medical examiner for the insurance company. Suppose the physician had been called upon to act as a referee by the insurance company would his obligations of secrecy oblige him to stand by and see them swindled ?

In the case of a clandestine confinement, M. Brouardel advises reporting the birth and stating the father and mother as unknown. In the case of duels, he considers the obligations of secrecy as binding only when the meeting is clandestine.

Incidentally, the case of Cornelius Herz is referred to. Here M. Brouardel, with other experts, was called upon to decide whether the patient was in a condition to go to London and be cross-examined. A statement was made to the effect that his removal would be extremely dangerous, but the experts, " although the case was not one calling for medical secrecy," refrained from publishing the details of the case, because they " knew that Herz read the newspapers and thought it humane

not to aggravate his condition by detailing the particulars of his case." For this secrecy the experts were made the recipients of much adverse criticism, in spite of which they did not reveal anything until the condition of the patient improved. Here this heroic reticence appears to have been rather uncalled for, as the statement that a man was dangerously ill and likely to die at any moment, would hardly be made much worse by a little circumstantial detail, and it would seem as if a full and satisfactory statement, by putting an end to idle rumours and enabling the patient to obtain more rest might have been the best thing to be done.

In France this medical secrecy is just as absolute as the secrecy of the confessional. For instance, in a case which recently occurred where a runaway convict who had been taken ill and treated in a hospital, was recaptured after leaving the institution, the medical superintendent refused to allow the police to look at the admission book or to have it produced in court, the hospital being regarded as a sanctuary for evil doers, if in poor health. To entertain these lofty and ennobling sentiments is a joy which does not fall to the lot of medical men elsewhere than in France. Here, if when the coster had finished jumping on his mother, he were to go to hospital for a week to recover from the effects of his spree, the chances are that the superintendent would be only too glad to give him in charge of the police.

While the above was in print, we noticed the following item in one of the daily papers. As it has excited no comment from the medical profession of this country, we may assume that medical traditions have not been violated in this case. We omit the names, which were, of course, given in full.

S——, June 4.—On Saturday a verdict of infanticide was given by the coroner's jury against a Miss T——, aged 20, who was a servant in a family in S——. She being very sick, Dr. B—— was sent for. He discovered that her illness was the result of an *accouchement* a few days previous. To his enquiries about the child he got evasive replies, which aroused his suspicions. He notified the police. Search was made and

the child was found dead. Saturday afternoon the doctor held a post-mortem examinatien and an inquest, when it was discovered that the child bore marks of violence about its throat, as though it had been strangled. There were also evidences that the child must have been living at the time of its birth. As soon as the girl's health will permit, she will be committed to gaol.

Professional secrecy in medical matters, controlled by common sense, is an excellent thing, and we think that as matters stand English practitioners do not, as a class, indulge in unnecessary gossip any more than do their Frenoh confreres, but in this fantastic *Secret Médical* we rather suspect that the French profession have rather too much of a good thing, and that the secrecy is more likely to be used as a cloak for ignorance than for any more noble purpose. It is instructive to note that Prof. Brouardel takes care to explain that there is nothing in the nature or circumstanccs of contagious diseases which enjoins secrecy. He claims that by relaxing secrecy in the matter of epidemic diseases the annual mortality in France can be diminished by 40,000, and we think if, by relaxing it a little more, the mortality could be reduced still further, that society in general would be the gainer.

ST. MARGARET'S HOME FOR INCURABLES.

Among the many charitable institutions of Montreal, one recently opened is the new Home for Incurables, which is specially noticeable as being the only one of its kind in the city. The work was begun in a small way nine years ago by the Sisters of S. Margaret, with a very few patients, and has been quietly going on though gradually increasing in numbers. As the Home received cases which were not eligible for any other hospital or home in the city, it became better known, and applicants able to pay more or less for their board and care were received, though free patients have always been in the majority. The hopelessness of such cases appeals largely to the sympathy of every one, and the knowledge that there will be no ultimate

recovery in any case would often be depressing to the workers were it not for the kind assistance and encouraging words given by the many friends of the Home.

The greatest need of the Home was that of a *permanent* building which had necessarily changed its location several times in a few years, but a short time ago the Hon. G. A. Drummond (who had previously kindly aided the sisters) purchased the estate of the late W. Notman, Esq , 557 Sherbrooke Street, for the use of the Incurables. The property extends from Sherbrooke to Milton street, with an extensive garden in the rear. This house has not been much changed excepting to be thoroughly repaired, but a corridor, 40 feet long and two stories in height, with a gallery on the top, has been built, which leads from it to the large new building which has been erected in the garden. This new house, extending 50 feet on both sides of the corridor, is of red brick, four stories in height, the centre running up to five stories. In the basement, which has a fine concrete floor, are to be found the kitchen, pantries, laundry, furnace room, coal cellar, and two rooms for servants' use. The staircase is in the centre of the building and is wholly fire-proof, each landing leading to a gallery at the back over-looking the garden. On the first and second floors are double and single rooms on each side of the long passage, nurses' sleeping rooms, ward kitchen, and two bath rooms, with a sitting room at the end with an oriel window. Two large wards are on the third floor with ten beds in each, and over that again two smaller rooms for the accommodation of nurses and a trunk and linen room. The house is lighted throughout with electricity. The appearance of the walls is bright and attractive, being of terra cotta colour with a jute dado of blue. Handsome engravings adorn the walls of the rooms and corridors, and nothing has been omitted that would in any way minister to the comfort of the patients or to the convenience of the workers.

Hitherto the sisters have been obliged to confine the work to the care of women only, but they now intend to receive male patients as well. All incurable cases will be admitted (excepting those of insanity or epilepsy) regardless of creed or nationality.

INFANTICIDE IN MONTREAL.

During the past month attention has been called by the daily press to the frequency of infanticide in Montreal. What is most striking is that, although a number of verdicts of this nature have been rendered during the past year, in no single instance have the police succeeded in finding any clue to the guilty parties, so that as yet no charge has been brought. The reasons for this are not far to seek ; a police force and detective force which seem to be capable of very little that lies out of their daily round of arresting drunkards and visiting second-hand shops ; a system of administration of justice which does not sanction any investigation into cases where the criminal has not been obliging enough to reveal his identity ; a system of registration by which nothing is heard of the birth of a child until after its death ; all combine to allow the perpetrators of infanticide to remain unknown and unpunished.

The remedy would seem to lie in making the registration of births compulsory, and in making it somebody's business to investigate these cases. Whether the cases are investigated by the police, the coroner, or the public prosecutor, appears to be a minor matter, compared with the necessity of an investigation of some sort being made.

In Paris, where there is a law compelling the declaration of all births within three days, for every ten cases of infanticide there are on the average six trials and four convictions. Had Montreal a similar system several convictions for this crime should take place every year, whereas not one has been obtained in the past fifteen years. We hope that all persons who have opposed the introduction of the civil registration of births are prepared to shoulder the responsibility for the crime which they thereby connive at.

The city health department has established a steam disinfection station in connection with the Moreau street civic hospital. The disinfecting apparatus now ready for use, one of the Geneste-Hirscher make, is considered an efficient form, although no conclusive tests have yet been carried out with this individ-

ual machine. We trust that a properly trained disinfecting staff, such as exists in New York, will be organized without delay, as no disinfecting apparatus, however excellent, can make itself useful without human aid, and until this is provided for by the city, the public health of Montreal will not be materially benefited. The public should be taught that disinfection is not beneficial in times of great epidemics only.

It is a matter of congratulation that Canada has so far escaped the danger to which we are exposed by the presence of small-pox in many large cities of the United States. We trust that this may continue to be the case, and are glad to see that extra precautions are being taken by both federal, provincial and local sanitary authorities to avoid the importation of cases, and to carry out vaccination on an extensive scale. We are not sufficiently well vaccinated to let quarantine regulations be neglected, and it is chiefly upon detection and isolation of the first case imported that the health of the country depends. As far as we can learn the results of vaccination by the lymph supplied by the Provincial vaccine farm, have been very satisfactory.

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